

A1-F18AC-WRM-001

1 October 1993

Change 2 - 15 March 2003

TECHNICAL MANUAL

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

WIRING REPAIR WITH PARTS DATA GENERAL WIRING REPAIR PROCEDURES

**NAVY MODEL
F/A-18A AND F/A-18B
161353 AND UP**

This volume is one of two volumes and is incomplete without A1-F18AC-WRM-000.

This volume contains WP157 00 through WP205 00.

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Only those work packages/pages assigned to the manual are listed in this index. Insert Change 2, dated 15 March 2003 . Dispose of superseded work packages/pages. Superseded classified work packages/pages shall be destroyed in accordance with applicable security regulations. If changed pages are issued to a work package, insert the changed pages in the applicable work package. The portion of text affected in a change or revision is indicated by change bars or the change symbol "R" in the outer margin of each column of text. Changes to illustrations are indicated by pointing hands, change bars, or MAJOR CHANGE symbols. Changes to diagrams may be indicated by shaded borders.

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160 00	AV628-2 (MIL-C-81582) Connector Repair	182 00	MS24266 (MIL-C-26500) Connector Repair
161 00	MS3470, MS3472, MS3475, and MS3476 (MIL-C-26482) Rear Release Type Connector Repair	184 00	ON089560-1 Connector Repair
162 00	88-5561 19-70S (MIL-C-26482) Connector Repair	187 00	885-200-03 Connector Repair
165 00	M81511 (MIL-C-81511 Series 4) Connector Repair	190 00	TVS06RK-XX-XXXX and TVS07RK-XX-XXXX Connector Repair
168 00	D38999 (MIL-C-38999 Series 3) Connector Repair	193 00	GA121-1 Connector Repair
169 00	MS27467, KJL6J9, KJL6T9, and 88-4887XX (MIL-C-38999 Series 1) Connector Repair	194 00	MS3116 (MIL-C-26482 Series 1) Connector Repair
170 00	KJL7YC103451-3 and MS27468 (MIL-C-38999 Series 1) Connector Repair	195 00	10-550598-35P (MIL-C-38999 Series 1) Connector Repair
171 00	MS27473 (MIL-C-38999 Series 2) Connector Repair	196 00	165-XX-XXXX (5M30-XX-XXXX) Connector Repair
172 00	LJT01RTXX-XXX014 and MS27656 (MIL-C-38999 Series 1) Connector Repair	200 00	DPX2NE41723 (MIL-C-81659) Connector Repair
173 00	Relay Socket Modules Repair	201 00	1-207595, 1-207596, 207595, and 207596 (MIL-C-81659) Connector Repair
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D	2	10	0	24	0	11	0
E	2	11	0	158 00 reserved	0	12	0
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TPDR-2 blank	2	13	0	160 00		14	0
157 00		14	0	1	0	15	0
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26	0	16	0	34	0	51	0
27	0	17	0	35	0	52	0
28	0	18 blank	0	36	0	53	0
29	0	163 00 reserved	0	37	0	54	0
30	0	164 00 reserved	0	38	0	55	0
31	0	165 00		39	0	56	0
32	0	1	0	40	0	57	0
33	0	2	0	41	0	58	0
34	0	3	0	42	0	59	1
35	0	4	0	169 00		60	0
36	0	5	0	1	2	61	0
37	0	6	0	2	0	62	0
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14	0	167 00 reserved	0	16	0	78	0
15	0	168 00		17	0	79	0
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114	0	45	0	27	1	89	1
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191 00 reserved	0	33	0	13	0	30	0
192 00 reserved	0	34	0	14	0	31	0
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3	0	5	0	201 00		52	0
4	0	6	0	1	1	53	0
5	0	7	0	2	0	54	0
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16	0	18	0	13	0	7	0
17	0	197 00 reserved	0	14	0	8	0
18	0	198 00 reserved	0	15	0	9	0
19	0	199 00 reserved	0	16	0	10	0
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21	0	1	0	18	0	12	0
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24	0	4	0	21	0	15	0
25	0	5	0	22	0	16	0
26	0	6	0	23	0		

NOTICE

NOTICE

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NOTICE, 16 MARCH 2003

CHANGE 2, DATED 15 MARCH 2003, WAS ISSUED WITH AN INCORRECT
BACKUP PAGE IN WP 169 00.

PLEASE REMOVE PREVIOUSLY RECEIVED PAGE AND REPLACE WITH THE
ATTACHED.

NOTICE

NOTICE

LIST OF TECHNICAL PUBLICATION DEFICIENCY REPORTS INCORPORATED

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

WIRING REPAIR WITH PARTS DATA

This WP supersedes TPDR WP, dated 1 June 1995.

1. The TPDRs listed below have been incorporated in this issue.

IDENTIFICATION NUMBER/ QA SEQUENCE NUMBER	LOCATION
96908-02-0004	WP169 00, Pg. 7 and Pg. 35

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****MS3450, MS3456 AND MS3459 (MIL-C-5015) CONNECTOR REPAIR****Reference Material**

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Protective Boot Installation for Environmental Type Connectors With Metal Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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



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

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 48	8 April 86	Alternating Current Bus Isolation (EXP MDA-F/A-18-00121)	1 Sep 86	-
F18 AFC 49	31 Jan 86	Addition of Sealed Lead Acid Battery (ECP MDA-F/A-18-00074)	1 Sep 86	-

Reference Designation to
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Reference Designation	Figure No.
1J-G089	20
1P-A135	22
10P-P003	21
10P-R004	21
 64P-E001A	25
 64P-E001A	27
 64P-E001B	24
 64P-E001B	26
70P-E005	23

LEGEND

 161353 THRU 163145
 163146 AND UP

1. DESCRIPTION.

2. The MS3450, MS3456 and MS3459 connectors are manufactured to MIL-C-5015G. The MS3450 are wall mounting receptacles, the MS3456 are straight plugs with threaded couplings, and the MS3459 are straight plugs with self-locking coupling nuts. These connectors are intermateable and intermountable with MIL-C-83723, Series 2, connectors. The connectors are of the circular, environmental-resistant type; partial fluid protection against a variety of fuels, oils, coolant, and cleaning agents. The connectors have crimp-type, rear-removal contacts and can withstand temperatures of -67° to +347°F.

3. The crimp tool handle, positioner, insertion tool, removal tool, and unwired removal tool are listed in table 1. Additional information relating to strip dimensions, contact part numbers, and sealing plug part numbers are specified in table 2 for each connector reference designator. Referenced tables are in figure of particular connector.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for breakdown of the military part numbering system for MIL-C-5015 connector used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Alcohol, Isopropyl

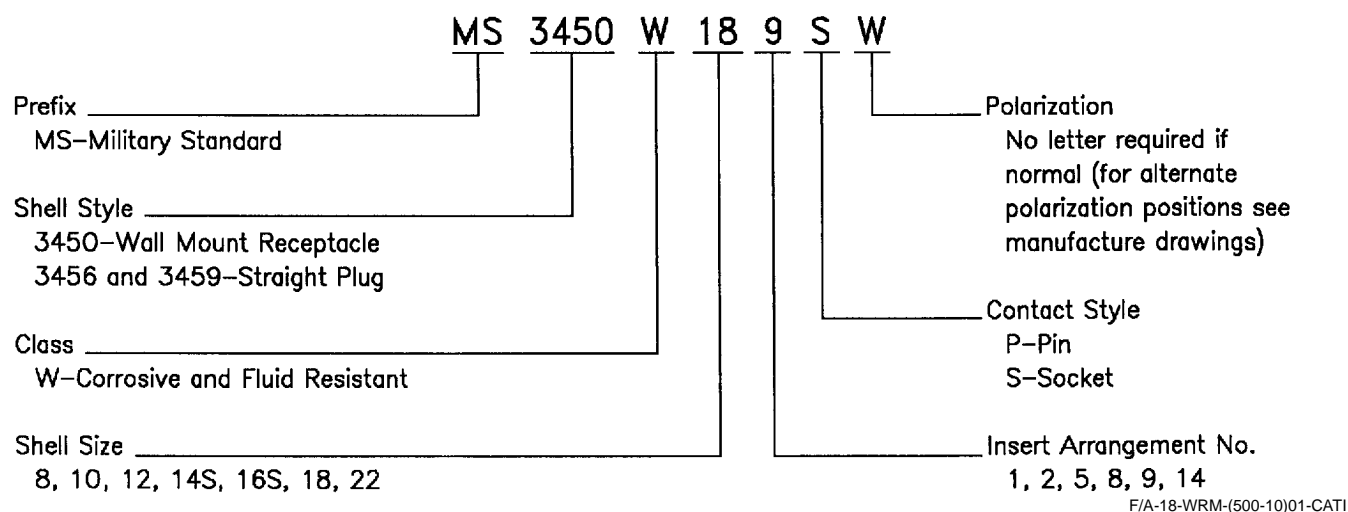


Figure 1. Military Part Numbering System for MS3450, MS3456 and MS3459 Connectors

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine the correct length of insulation to be removed from the strip dimension specified in table 2 contact data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

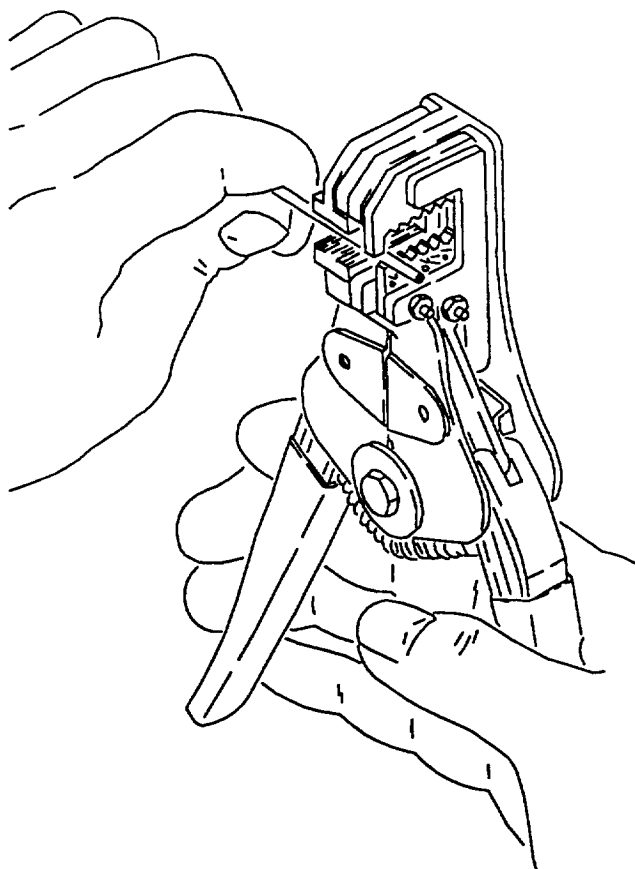
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For detail explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

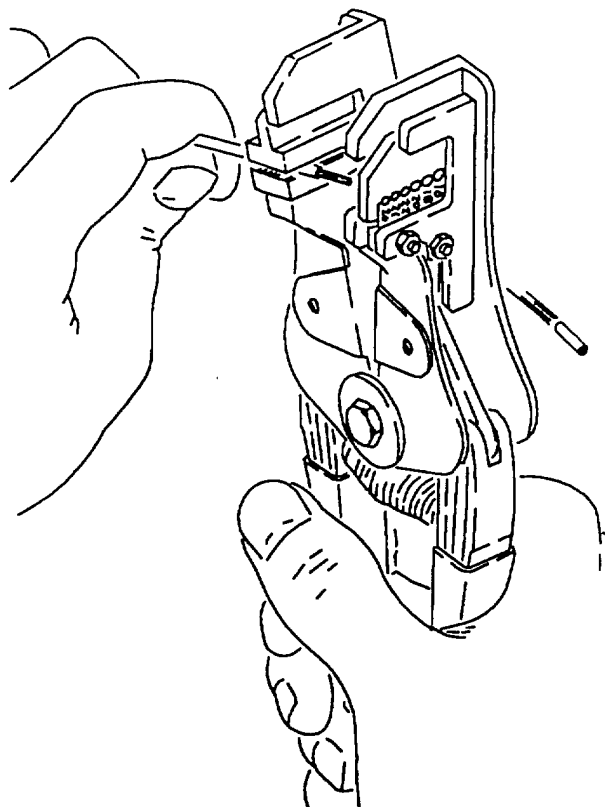
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

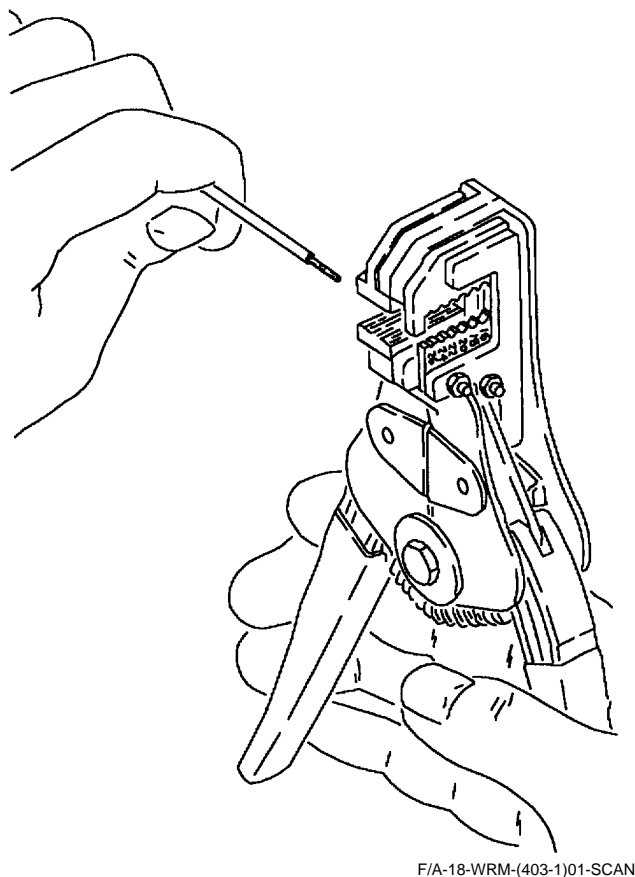
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

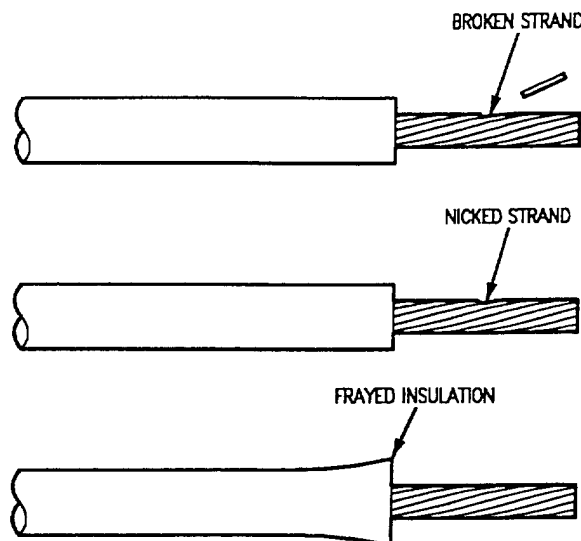


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

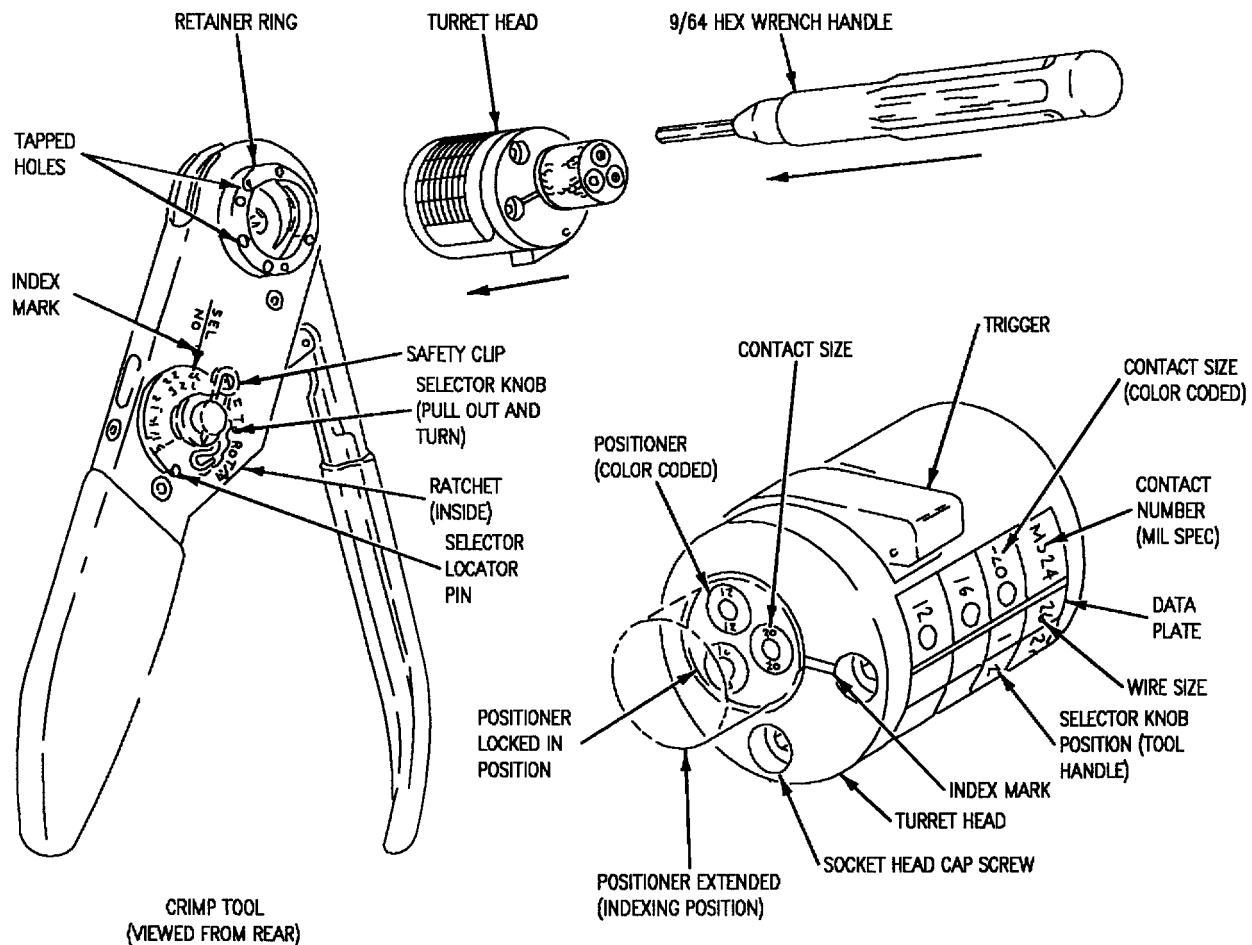
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

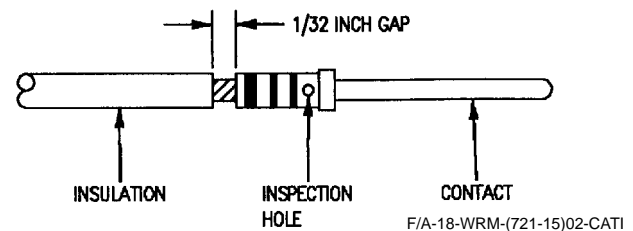
- a. Press trigger on head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.
- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CONTACT CRIMPING.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 7.

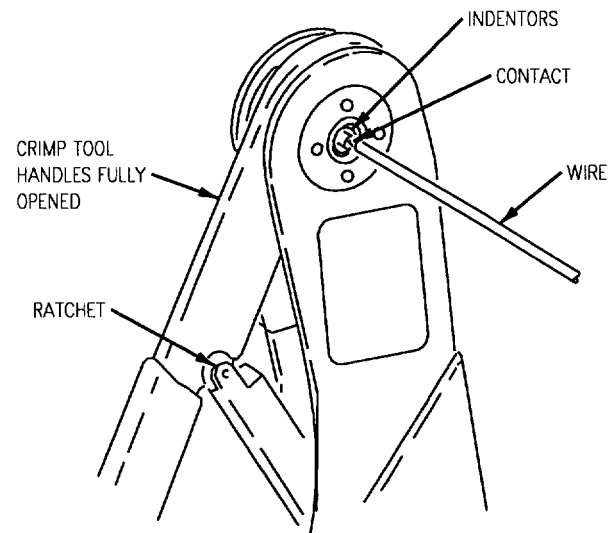
**Figure 7. Strip Gap Check**

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 8, detail A.

NOTE

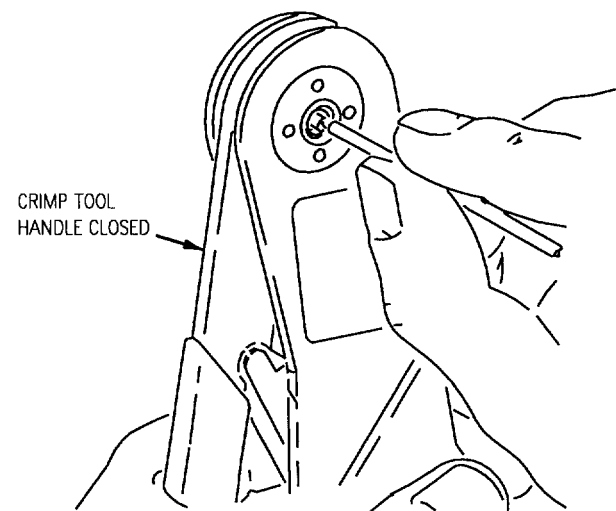
Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 8, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

Figure 8. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 9.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.

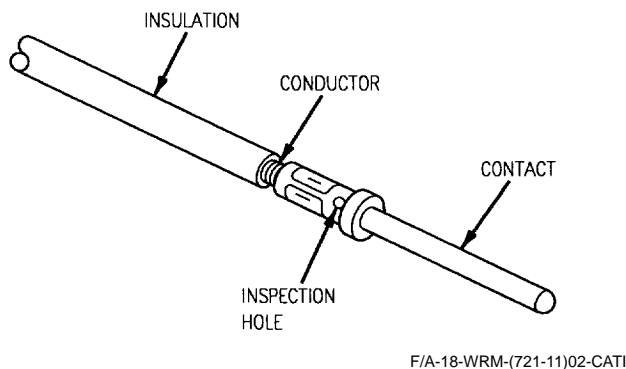


Figure 9. Inspection of Crimped Contact

13. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this WP.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

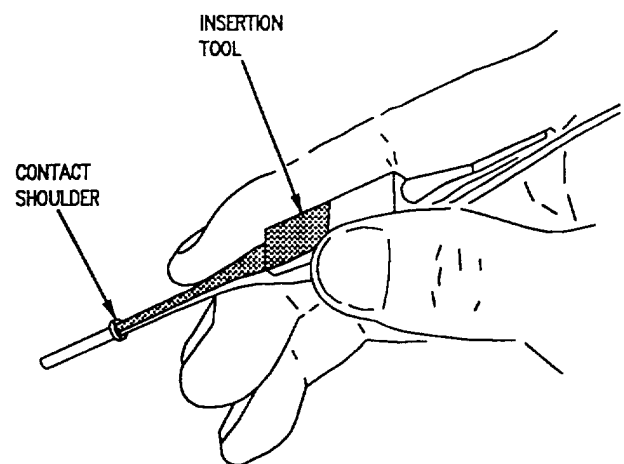
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 10.



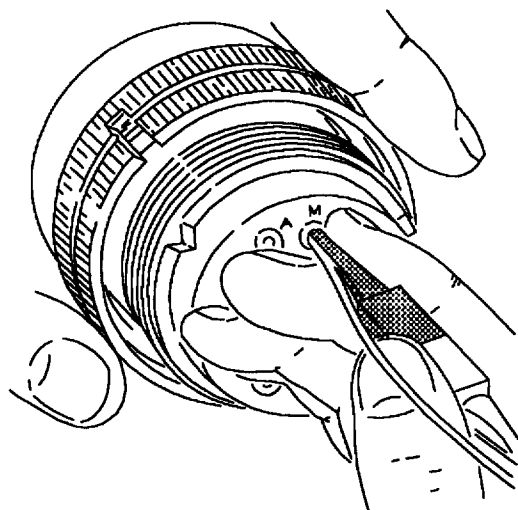
Damage may occur to contact if removal tool is tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 10. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 11.

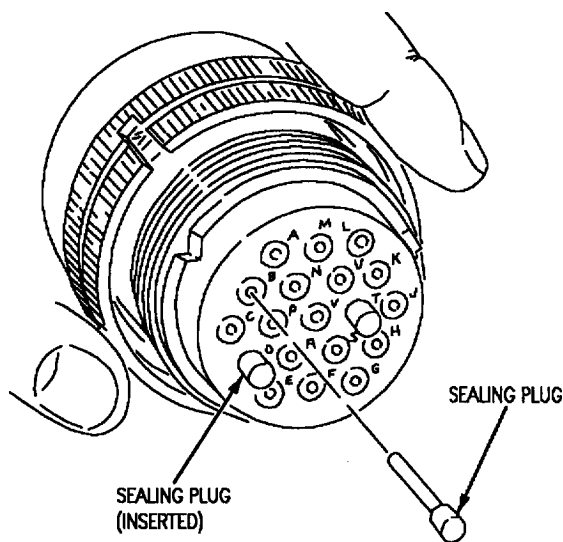


F/A-18-WRM-(443-1)02-SCAN

Figure 11. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity, disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 12.



F/A-18-WRM-(443-2)02-SCAN

Figure 12. Inserting Sealing Plug(s) into Connector

14. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this WP.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

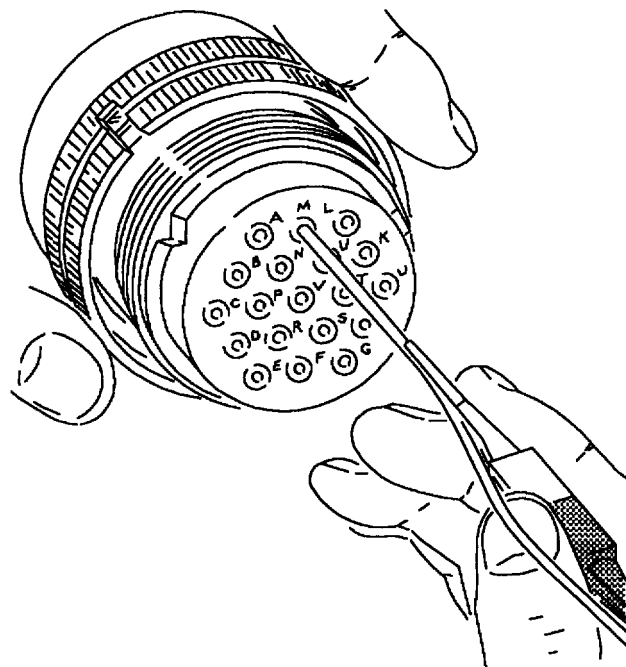


Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

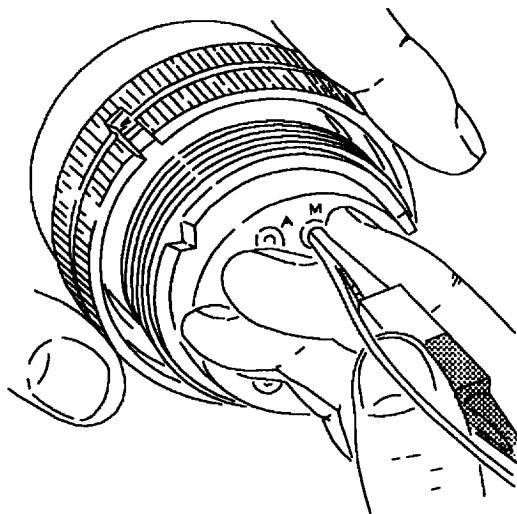
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 13.



F/A-18-WRM-(443-3)02-SCAN

Figure 13. Removal Tool on Wire

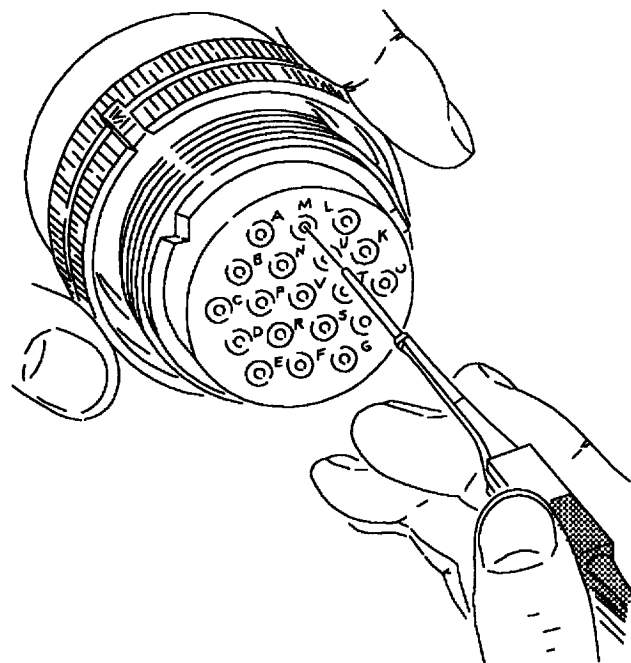
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 14.



F/A-18-WRM-(443-4)02-SCAN

Figure 14. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 15.



F/A-18-WRM-(443-5)02-SCAN

Figure 15. Removing Contact from Connector

15. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this WP.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

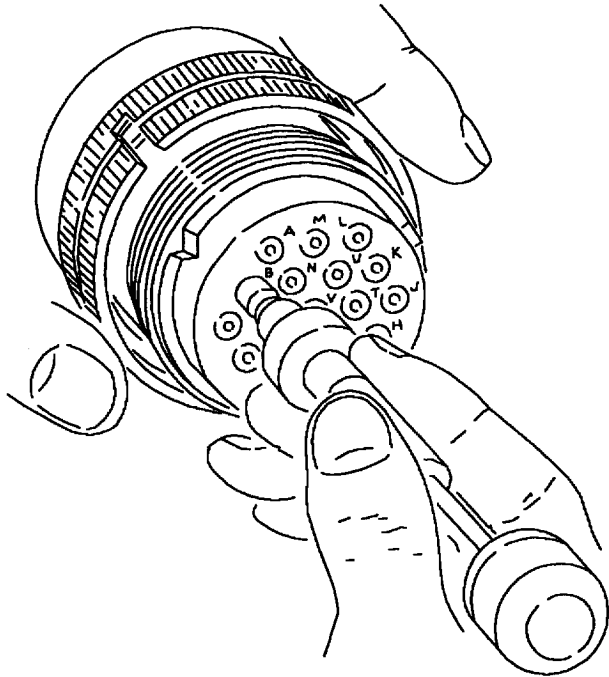
c. Align unwired removal tool, at the rear and at the right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

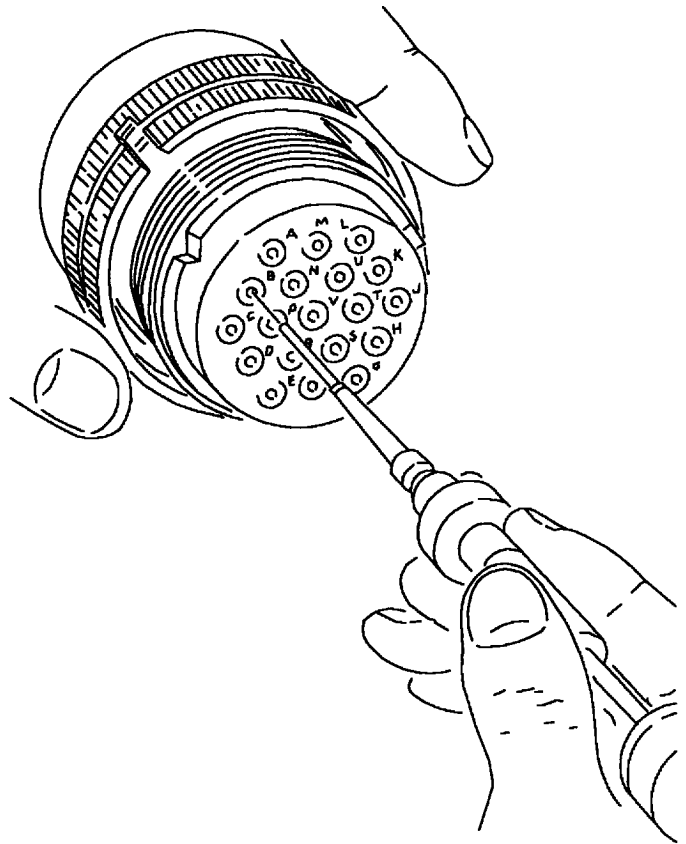
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 16.



F/A-18-WRM-(443-6)02-SCAN

Figure 16. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw Unwired Removal tool and contact from rear of the connector. See figure 17.



F/A-18-WRM-(443-7)02-SCAN

Figure 17. Extracting Contact from Connector

g. Remove contact by holding Unwired Removal tool and press plunger forward.

16. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this WP.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

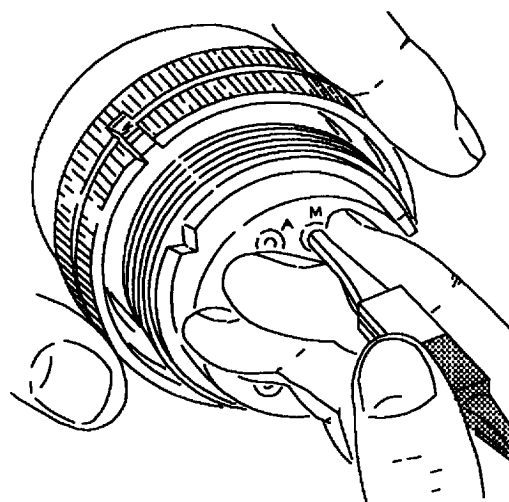
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.

CAUTION

Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 18.



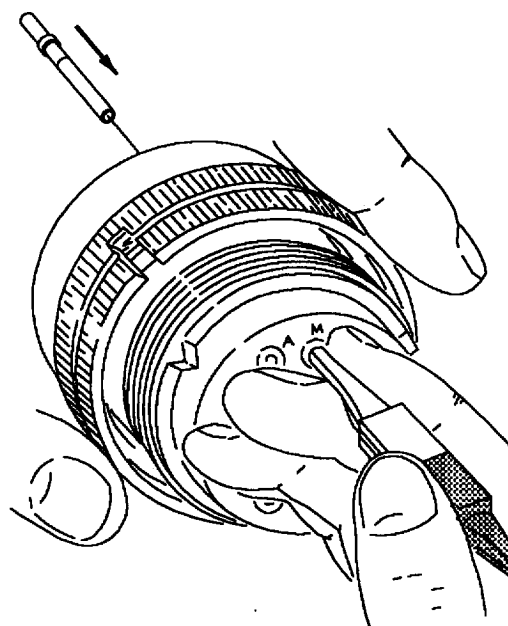
F/A-18-WRM-(443-8)02-SCAN

Figure 18. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

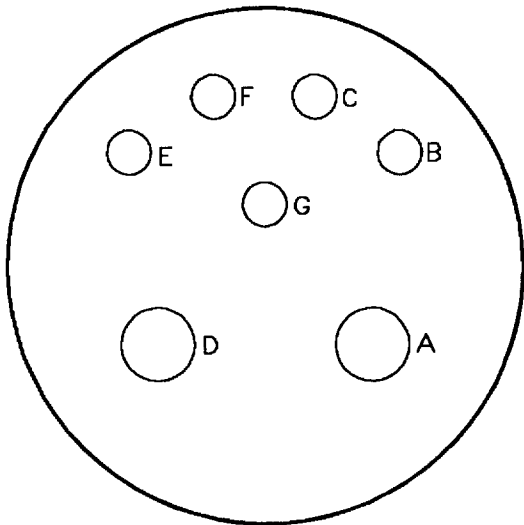
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 19.



F/A-18-WRM-(443-9)02-SCAN

Figure 19. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-7)01-CATI

Reference Designation to Backshell Data Index for MS3450W18-9S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1J-G089	M85049/52-1-18W	080 00

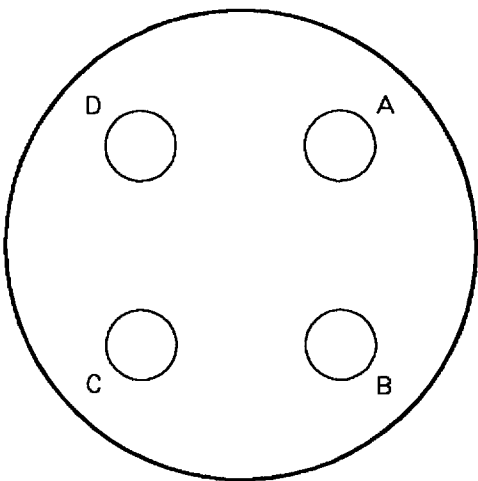
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-03
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2
Removal Tool Probe (Yellow)	DRK110-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A and D	7/32	M39029/30-219	MS31187-12-2
B, C, E, F and G		M39029/30-218	MS3187-16-2

Figure 20. MS3450W18-9S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-4)01-CATI

Reference Designation to Backshell Data Index for MS3459W14S2S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
10P-P003	M85049/52-1-14W	080 00
10P-R004	M85049/52-1-14W	080 00

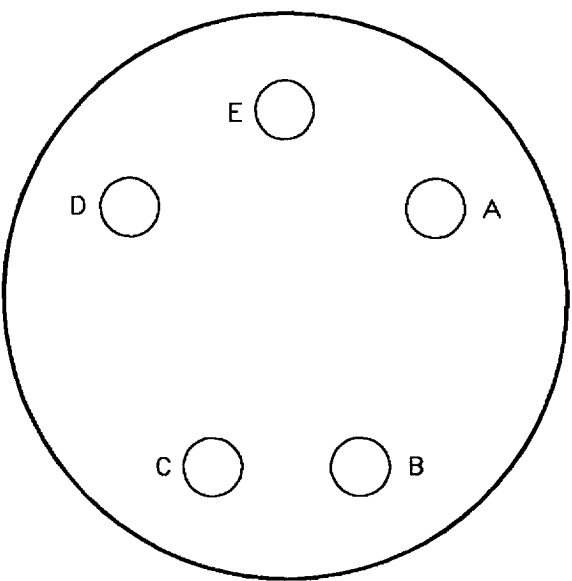
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1 -02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU D	7/32	M39029/30-218	MS25251-16

Figure 21. MS3459W14S2S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-5)01-CATI

Reference Designation to Backshell Data Index for MS3459W16S-8S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 1P-A135	M85049/51-1-16W	080 00
2 1P-A135	M85049/52-1-16W	080 00
1 162394 AND UP, ALSO 161702 THRU 161987 AFTER F18 AFC 48; F/A-18A 161353 THRU 161528 AFTER F18 AFC 49		
2 161702 THRU 161987 BEFORE F18 AFC 48		

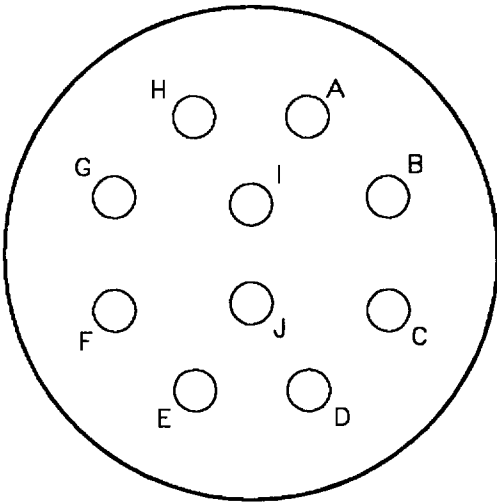
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1 -02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-02

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU E	7/32	M39029/30-217	MS31187-16-2

Figure 22. MS3459W16S-8S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-10)01-CATI

Reference Designation to Backshell Data Index for MS3459W18S-1S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
70P-E005	M85049/51-1-18W	080 00

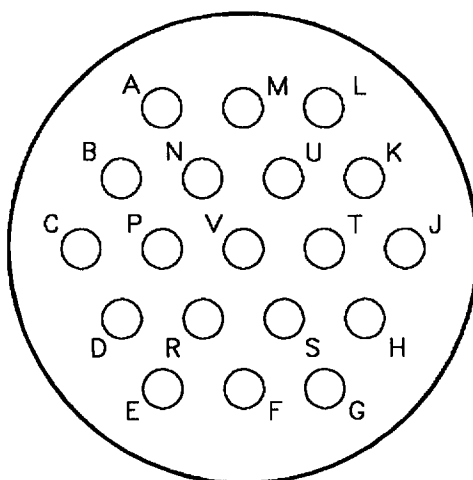
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-02

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU J	7/32	M39029/30-218	MS25251-16

Figure 23. MS3459W18-1S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-19)01-CATI

Reference Designation to Backshell Data Index for MS3456W22-14P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 64P-E001B	M85049/55-22W	080 00
1 163146 AND UP		

Reference Designation to Backshell Data Index for MS3459W22-14P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 64P-E001B	M85049/51-1-22W	080 00
2 64P-E001B	M85049/55-22W	080 00
1 161353 THRU 161528.		
2 161702 THRU 163145.		

Table 1. Tool Data

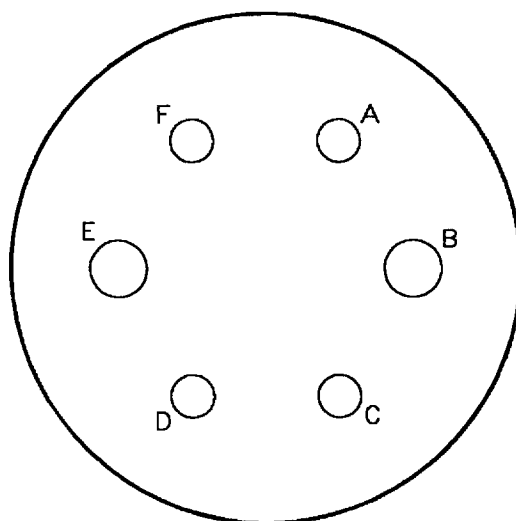
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Figure 24. MS3456W22-14P and MS3459W22-14P Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, AND R THRU V	7/32	M39029/29-212	MS31187-16-2

Figure 24. MS3456W22-14P and MS3459W22-14P Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-6)01-CATI

Reference Designation to Backshell Data Index for MS3456W22-5S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 64P-E001A	M85049/55-22W	080 00
1 F/A-18A 163146 AND UP.		

Reference Designation to Backshell Data Index for MS3459W22-S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 64P-E001A	M85049/51-1-22W	080 00
2 64P-E001A	M85049/55-22W	080 00
1 161353 THRU 161528.		
2 161702 THRU 163145.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-03
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2
Removal Tool Probe (Yellow)	DRK110-12-2

Figure 25. MS3456W22-5S and MS3459W22-5S Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A, C, D, AND F B and E	7/32	M39029/30-218 M39029/30-219	MS25251-16 MS25251-12

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****AV628-2 (MIL-C-81582)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

Reference Designation to Figure Number Index		Support Equipment Required	
Reference Designation	Figure No.	Part Number or Type Designation	Nomenclature
61P-W251	46	3308AS100	Repair Set-Wire and Connector
61P-Y101	46		

1. DESCRIPTION.

2. The AF62928-2 lanyard connector is a multiple conductor, circular environmental resistant connector with bayonet coupling and lanyard release.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

Materials Required	
Specification or Part Number	Nomenclature
HB643TY2CL1SZ1	Brush, Acid Swab
TTI735GRADEB	Isopropyl Alcohol
MIL-T-43435TY2- 3FNSHBLK	Lacing Tape
MIL-I-23594TY2- 0-500	Insulation Tape
MMS 409	Cleaning Compound

3. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

4. SOLDERING PROCEDURE.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

NOTE

Soldering provides a mechanical and electrical bond between metallic components. To get a good solder joint, all surfaces must be clean. The soldering iron must be clean and tinned with a thin layer of solder to

conduct heat. Excessive solder on the soldering iron tip may cause solder to splash on nearby components. A damp cloth can be used to wipe excess solder and residue from soldering iron tip.

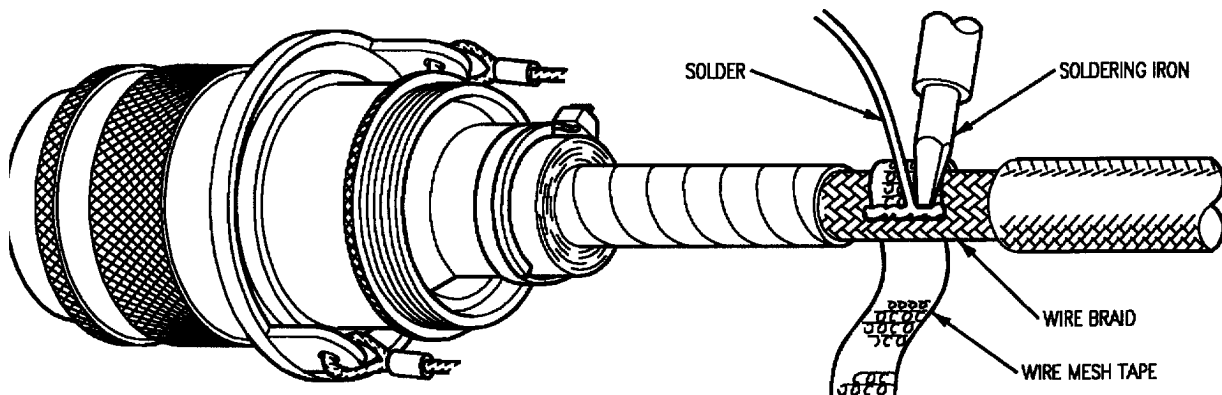
a. Clean and tin solder iron.

WARNING

Cleaning compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Good general ventilation is normally adequate. Keep away from open flames or other sources of ignition.

b. Clean wire mesh tape and cable metal braid with cleaning compound.

c. Hold wire mesh tape and metal braid together, heat wire mesh tape and metal braid with solder iron until solder flows. See figure 1.



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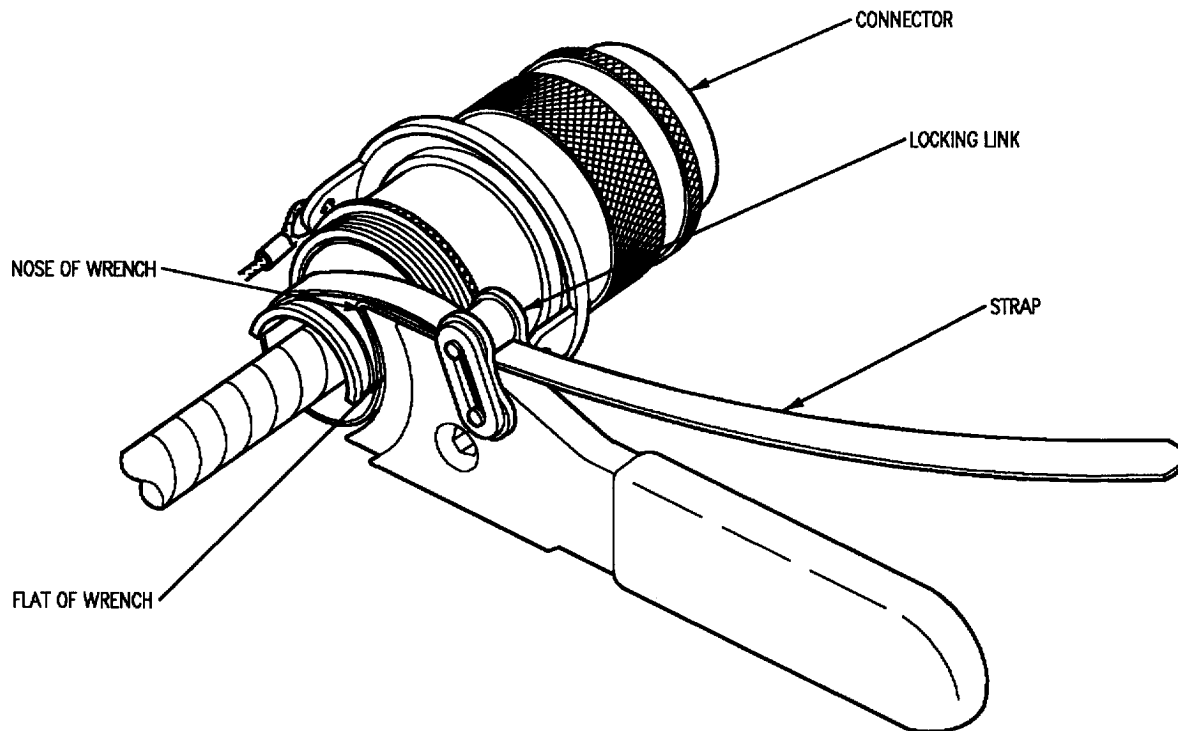
Figure 1. Wire Mesh to Metal Braid

5. STRAP WRENCH.

a. Install the strap around clamp to be tighten or loosened. Draw the strap tight and through the locking link so the clamp and strap rest on nose of wrench and against the flat of wrench. See figure 2.

NOTE

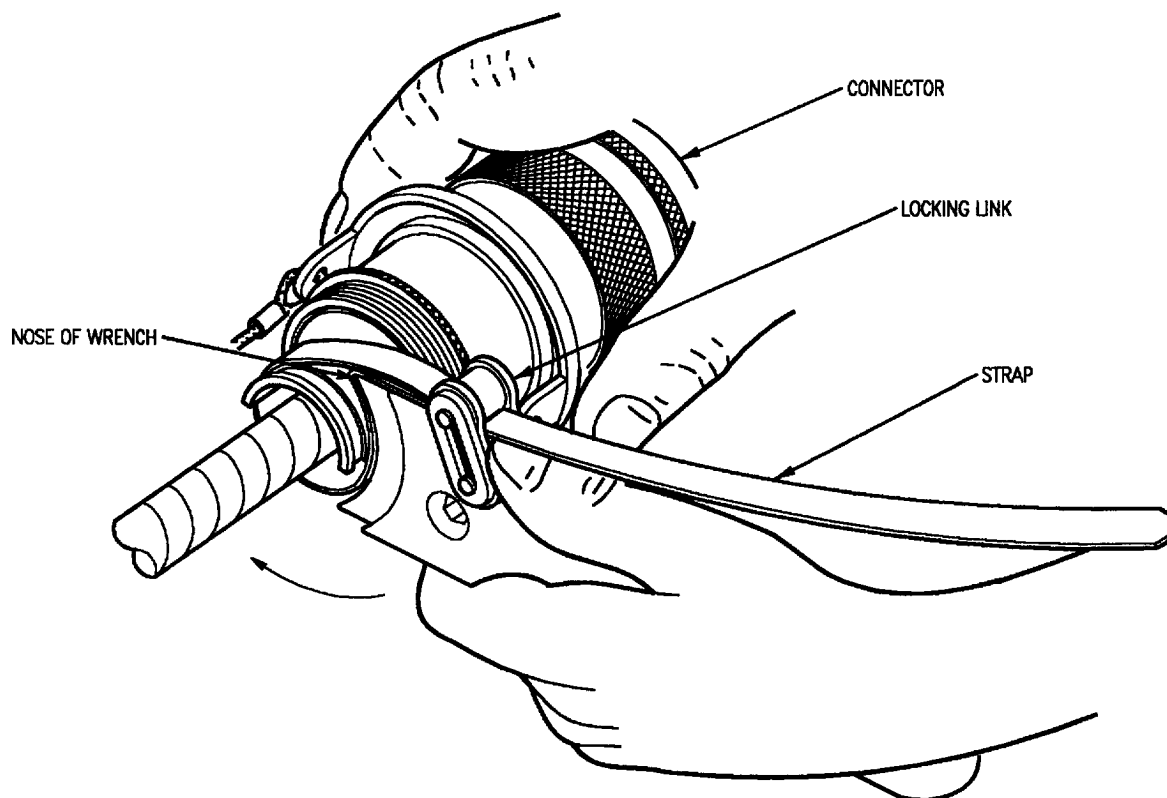
T-Handle can be used for additional gripping force to adapter if required.



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Figure 2. Strap Wrench Setup and Adjustment

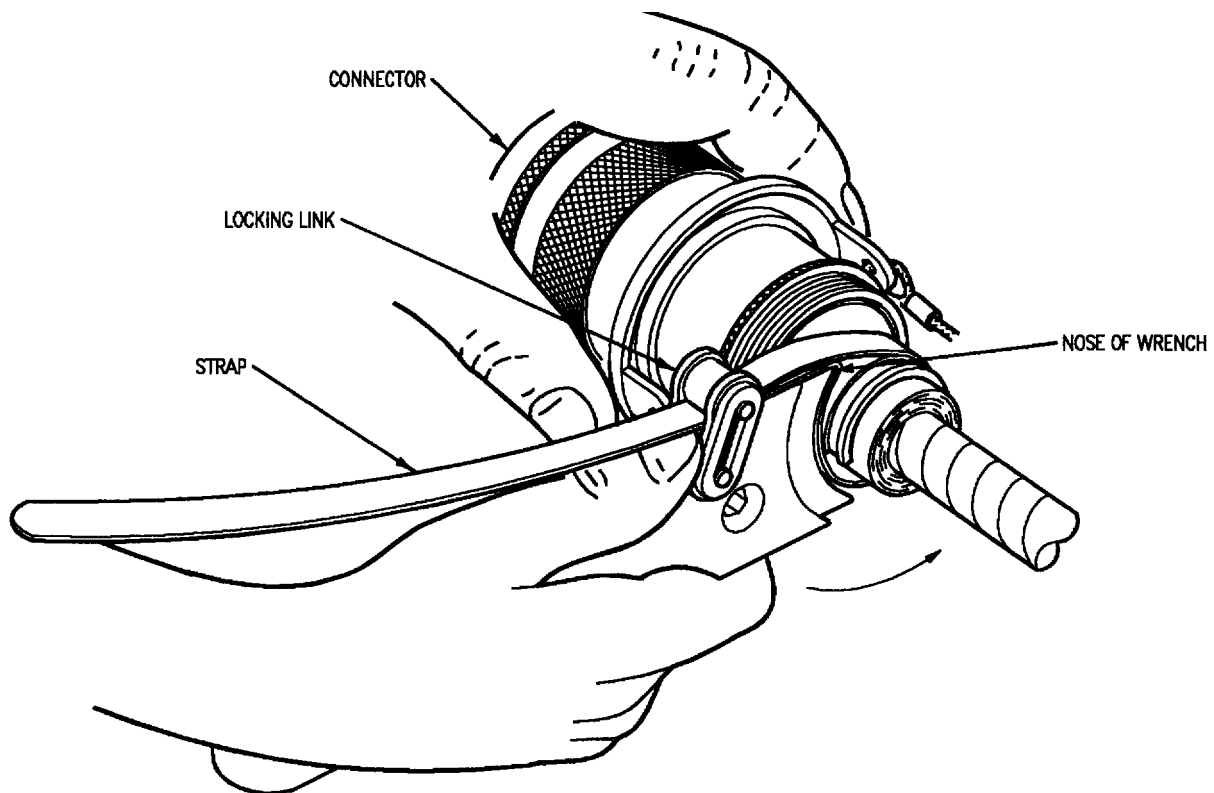
b. To tighten clamp, apply force in a clockwise direction as viewed from the rear of the connector. The clamp and strap are tucked beneath the nose of the wrench and against the flat of the wrench. See figure 3.



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Figure 3. Tightening Position of Strap Wrench

c. To loosen clamp, turn counterclockwise as viewed from the rear of the connector. See figure 4.

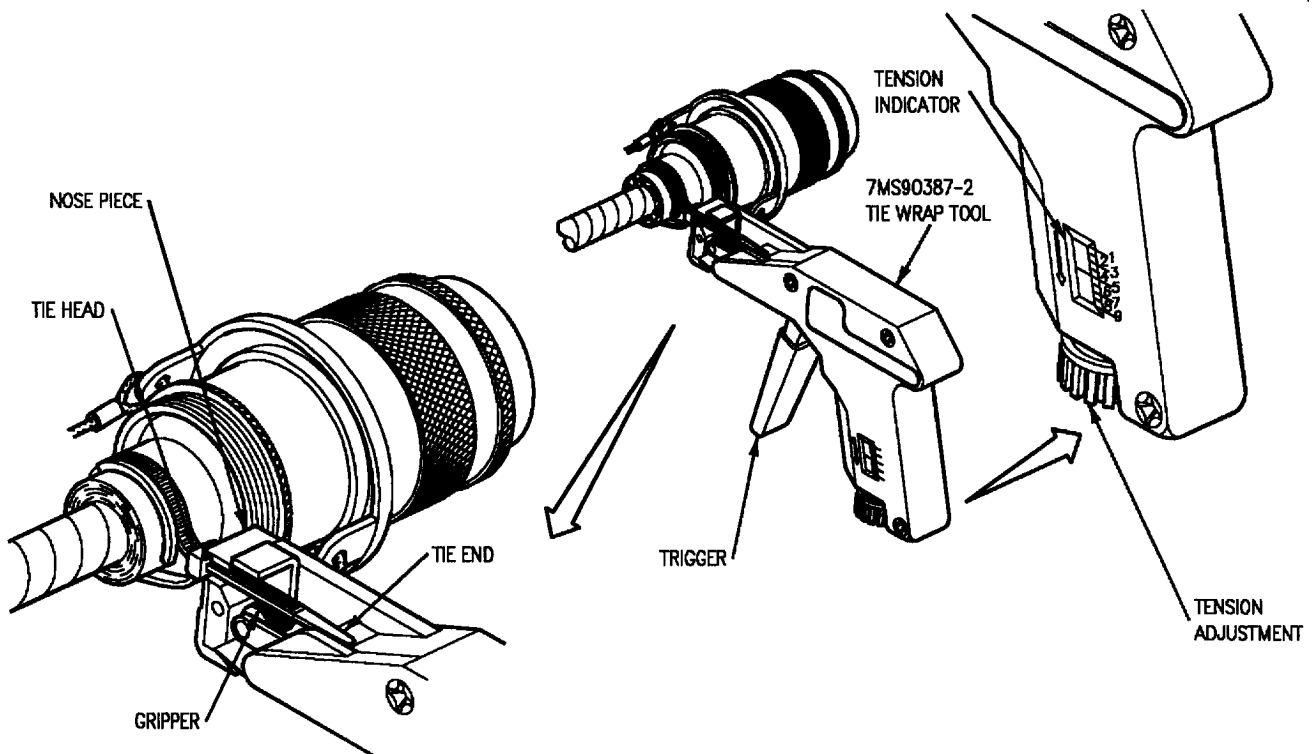


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Figure 4. Loosening Position of Strap Wrench

6. TIE WRAP TOOL.

- a. Adjust tool as specified in figure 5.
- b. Install cable tie around the cable/harness assembly.
- c. Thread tie end through slot in tie head and manually pull tight around harness assembly.
- d. Insert tie end through nose piece of tool and pull against tie head.
- e. Center cable tie in tool slot and over gripper.
- f. Squeeze trigger until cable tie is cut off flush with tie head.
- g. Release trigger and discard cut off end of cable tie.



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Figure 5. Tie Wrap Tool

7. BACKSHELL DISASSEMBLY.

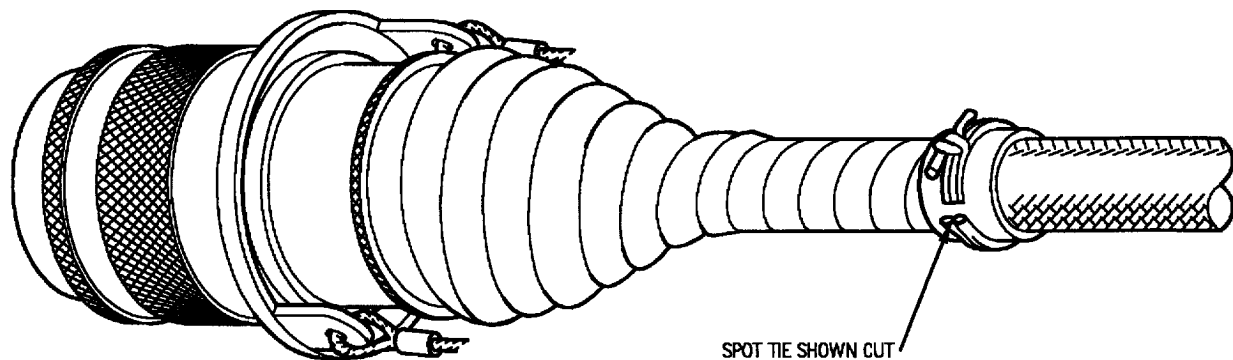


To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.



When cutting boot material with a sharp tool extreme care must be taken not to nick or scrape the wire or insulation beneath the cut.

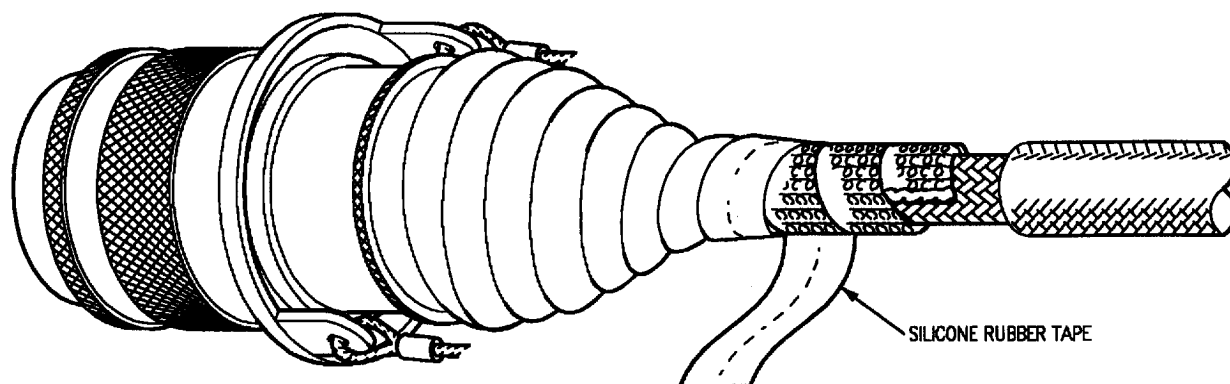
- a. Cut and remove spot tie. See figure 6.



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Figure 6. Spot Tie Removal

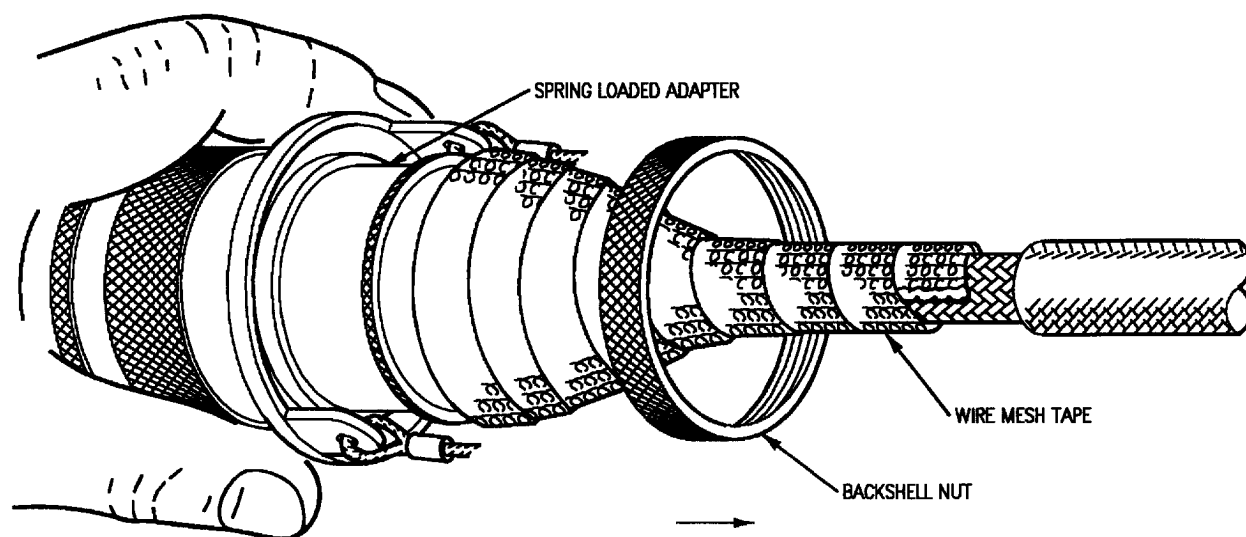
b. Unwrap or cut silicone rubber tape and remove from the boot area. See figure 7.



F/A-18-WRM-(656-1)01-CATI

Figure 7. Removing Silicone Rubber Tape Boot

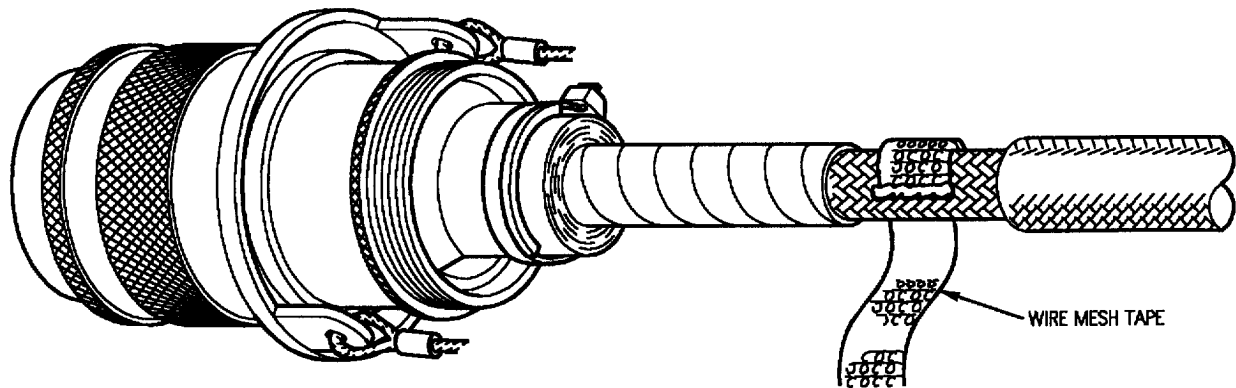
c. Loosen and remove backshell nut from connector. See figure 8.



F/A-18-WRM-(657-1)01-CATI

Figure 8. Backshell Nut Removal

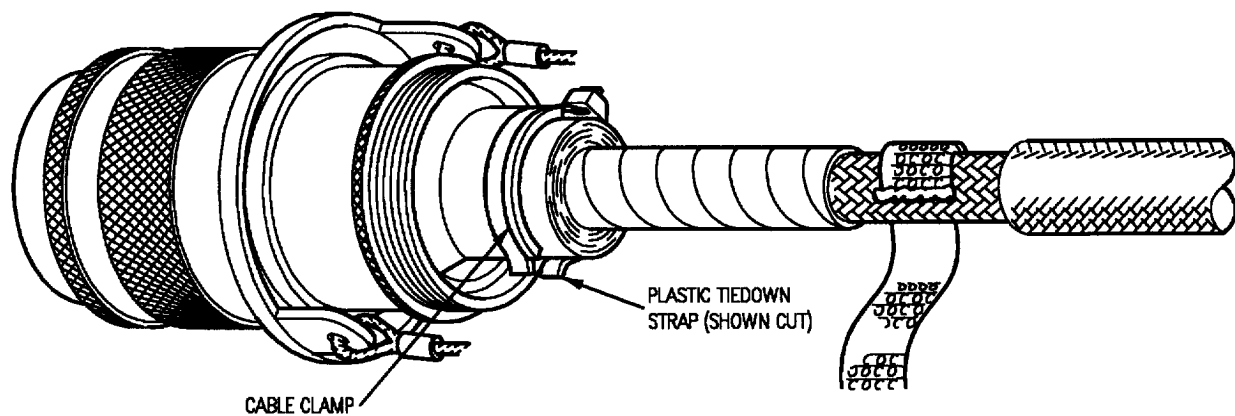
d. Unwrap wire mesh tape all the way back to the solder joint at the metal braid. See figure 9. If removal is necessary, unsolder from wire braid. Refer to paragraph 4.



F/A-18-WRM-(658-1)01-CATI

Figure 9. Wire Mesh Tape Removal

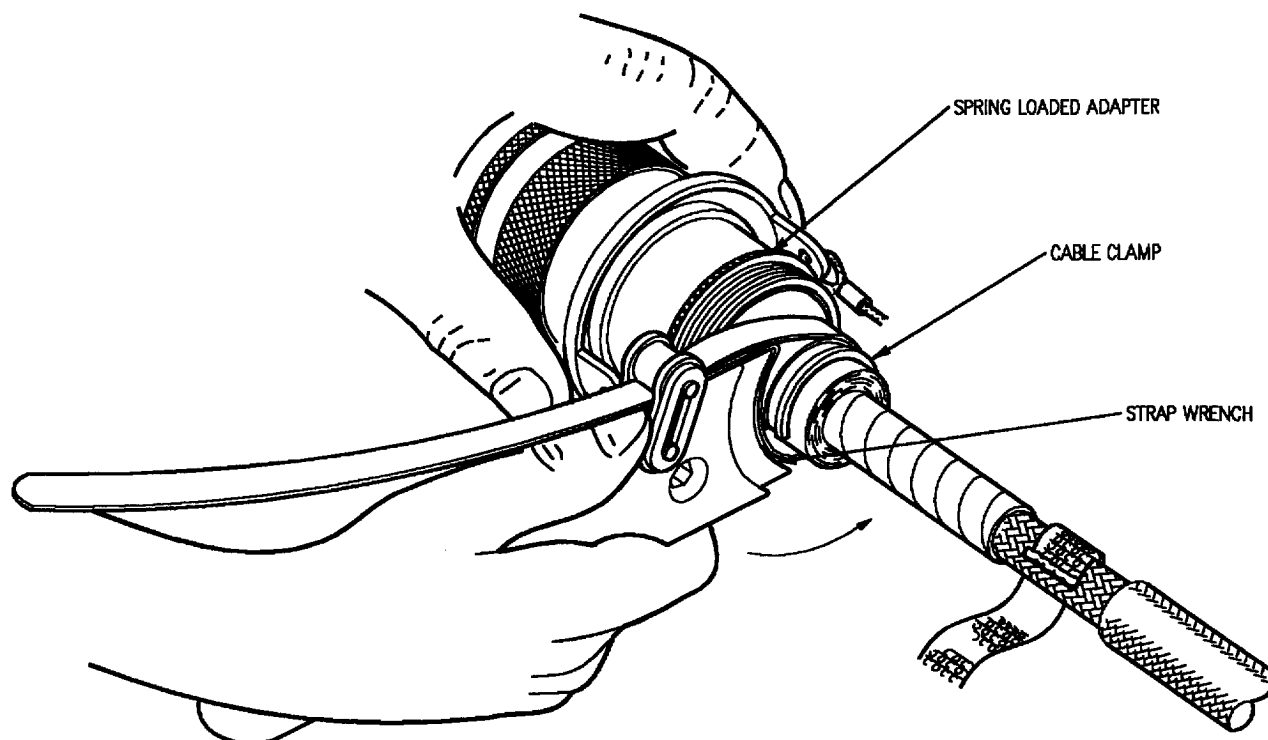
e. Cut plastic tiedown strap from cable clamp. See figure 10.



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Figure 10. Plastic Tiedown Strap Removal

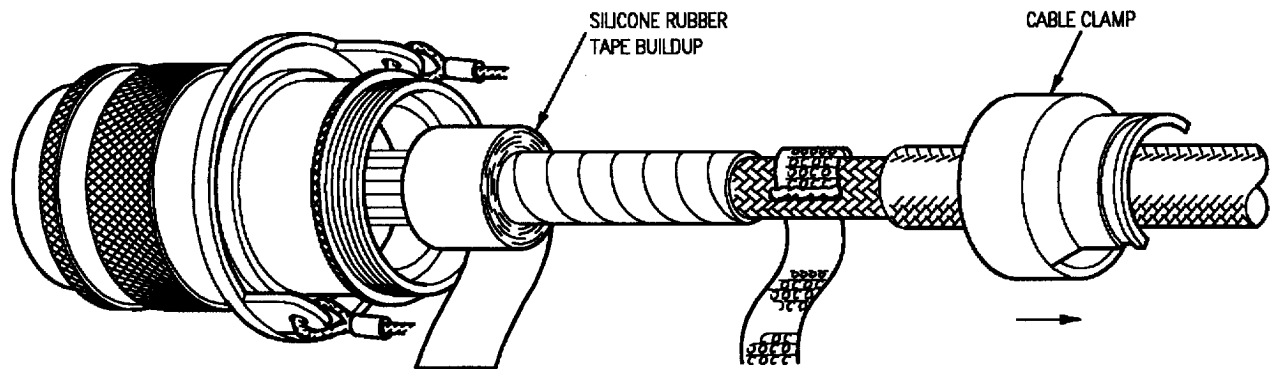
f. Loosen and remove cable clamp from connector by turning it counterclockwise as viewed from rear of connector. Slide back over cable assembly. See figure 11.



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Figure 11. Cable Clamp Removal

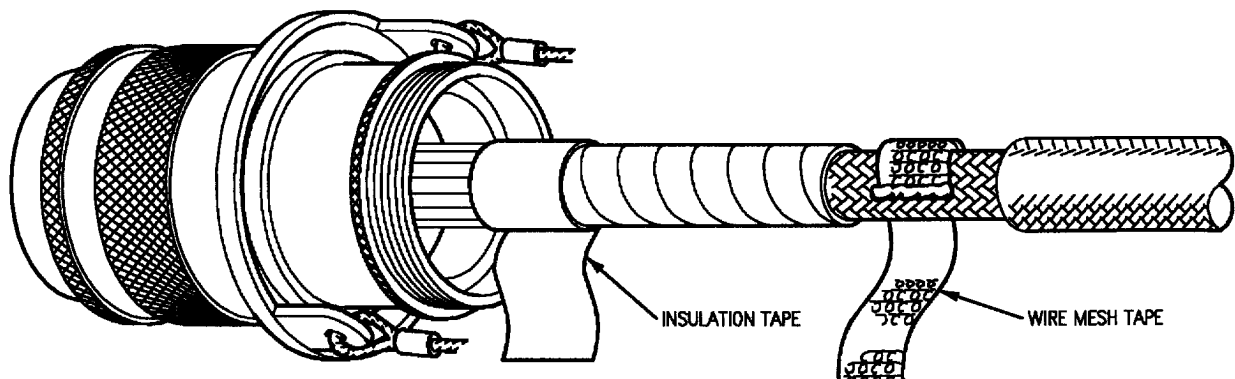
g. Remove silicone rubber tape buildup. See figure 12.



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Figure 12. Silicone Rubber Tape Removal

h. Unwrap and remove insulation tape. See figure 13.



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Figure 13. Insulation Tape Removal

i. Loosen and remove spring loaded adapter from connector. Slide back over cable assembly. See figure 14.

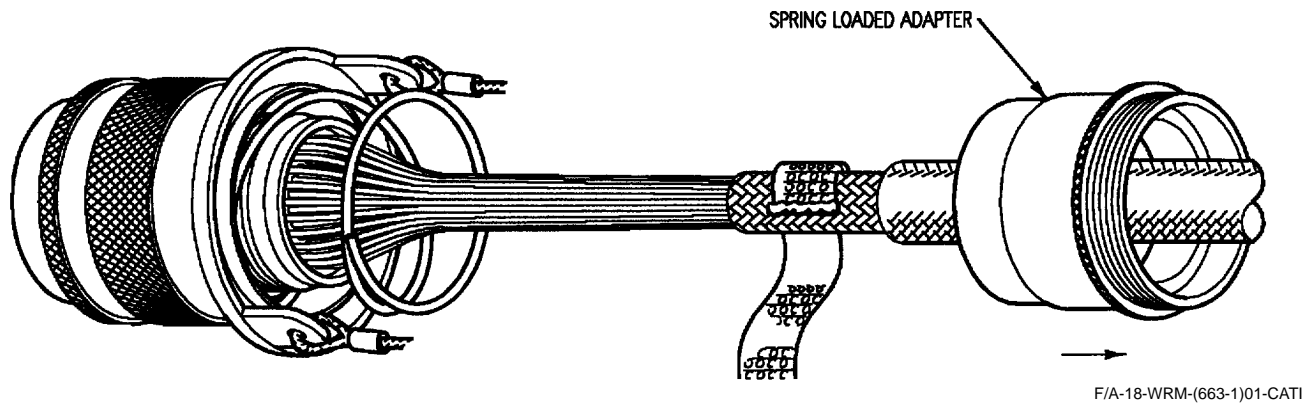


Figure 14. Spring Loaded Adapter Removal

j. Slide spring and coupling assembly back over cable assembly. See figure 15.

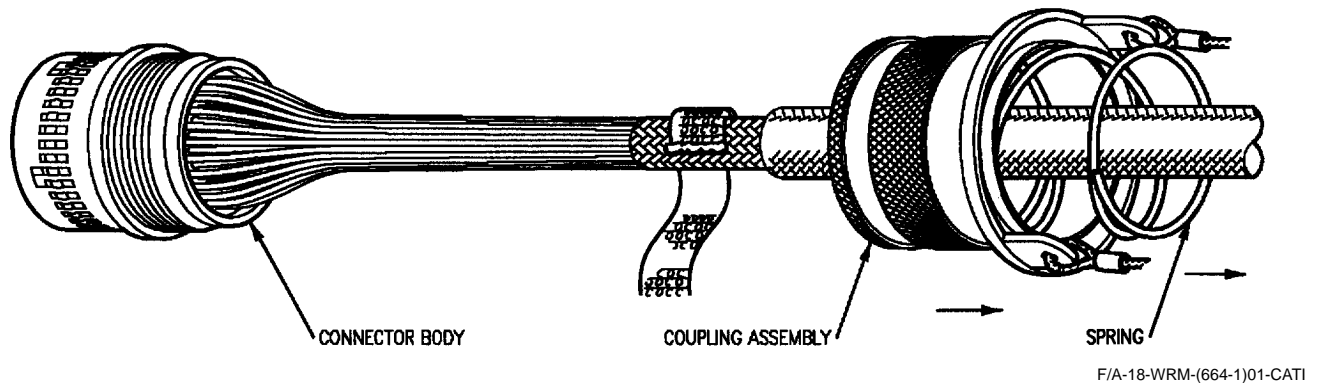


Figure 15. Spring and Coupling Assembly Removal

8. WIRE PREPARATION.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

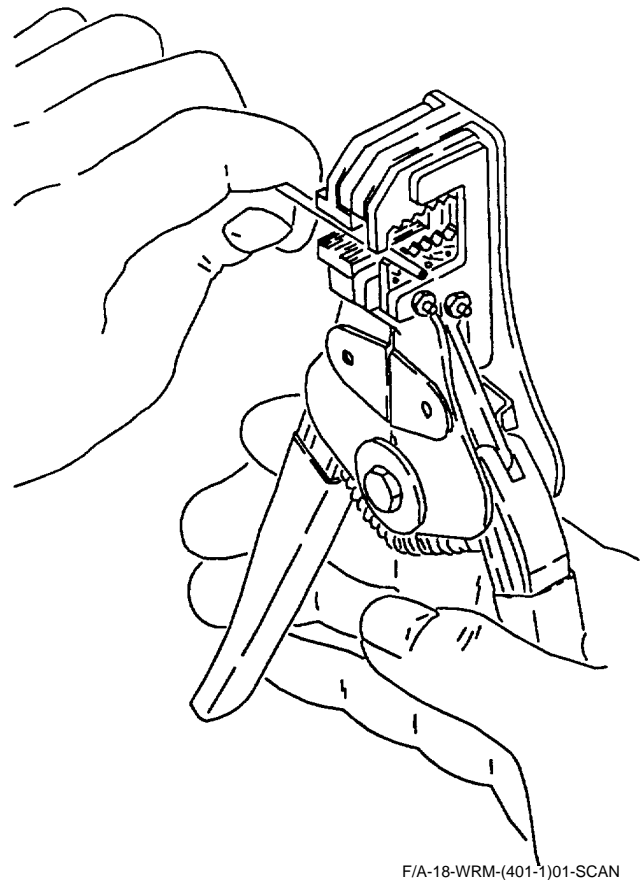
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 16.



F/A-18-WRM-(401-1)01-SCAN

Figure 16. Placing Wire in Slot of Stripping Tool

e. Close handles together as far as they will go. See figure 17.

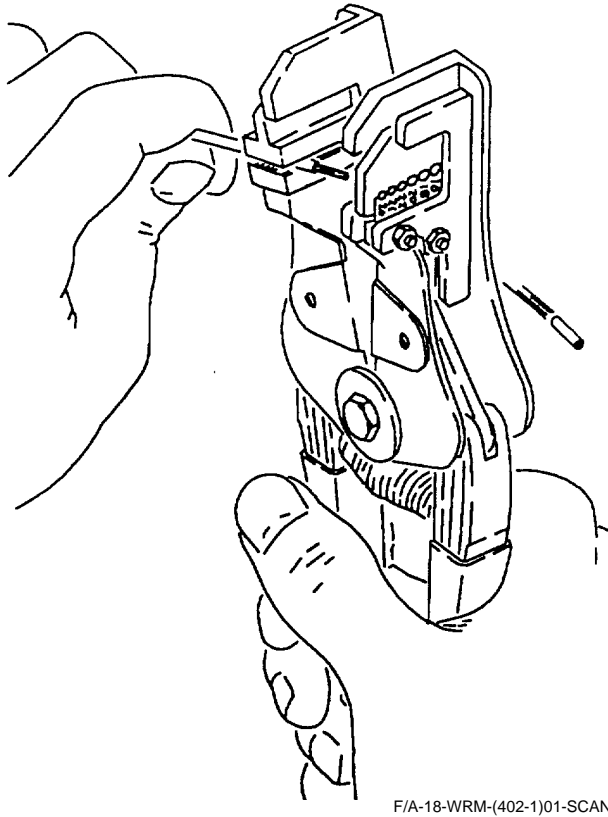


Figure 17. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 18.

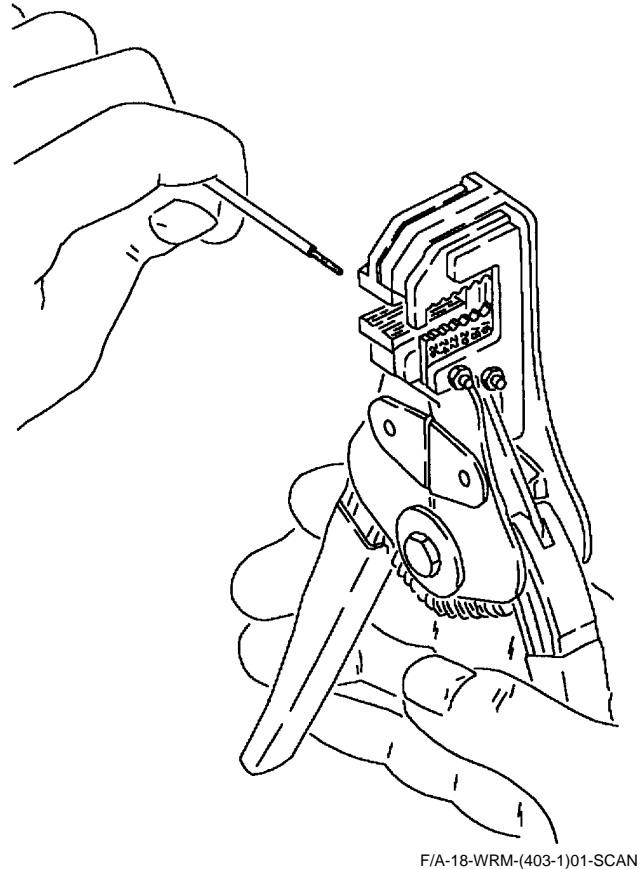


Figure 18. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 19 are unacceptable.

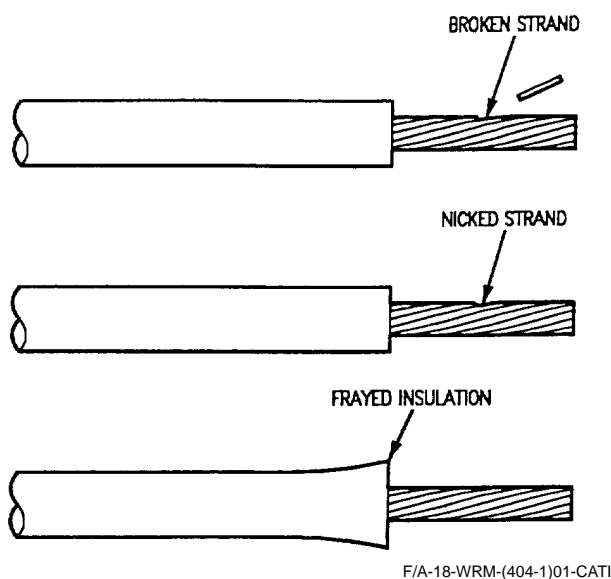


Figure 19. Unacceptable Conditions

9. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

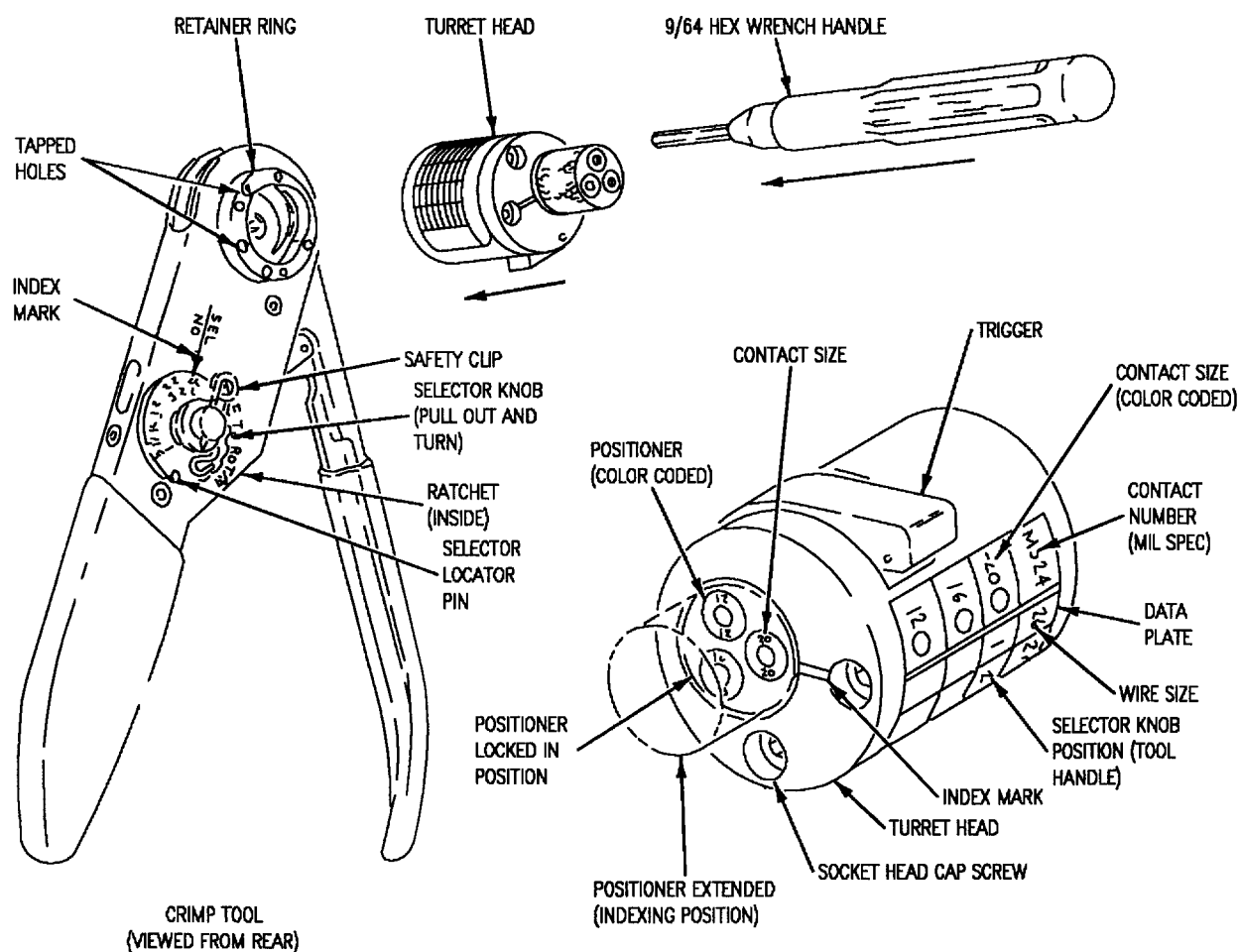
a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

10. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

- a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 20.



F/A-18-WRM-(405-1)01-CATI

Figure 20. M22520/1-01 Crimp Tool Handle and Turret Head

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.

11. ADJUSTING TURRET HEAD BEFORE CRIMPING.

a. Press trigger on turret head releasing positioner to extended (indexing) position.

b. Select position desired from color coded data plate on side of turret head assembly.

c. Rotate positioners until color coded positioner is lined up with index mark.

d. Press positioner into turret head until it snaps into locked position.

12. SETTING SELECTOR KNOB USING TURRET HEAD.

a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

b. Remove the safety clip lock from selector knob.

c. Raise selector knob and rotate to selector number found on data plate.

d. Replace safety clip.

13. CONTACT CRIMPING.

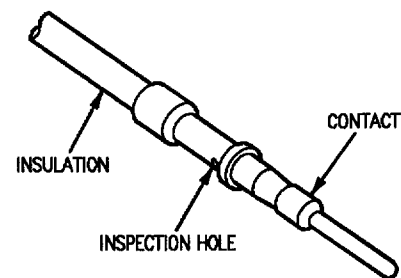


To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Select correct contact specified in table 2 for affected connector part number.

b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.

c. Make sure insulation is in contact as shown in figure 21.



F/A-18-WRM-(406-3)01-CATI

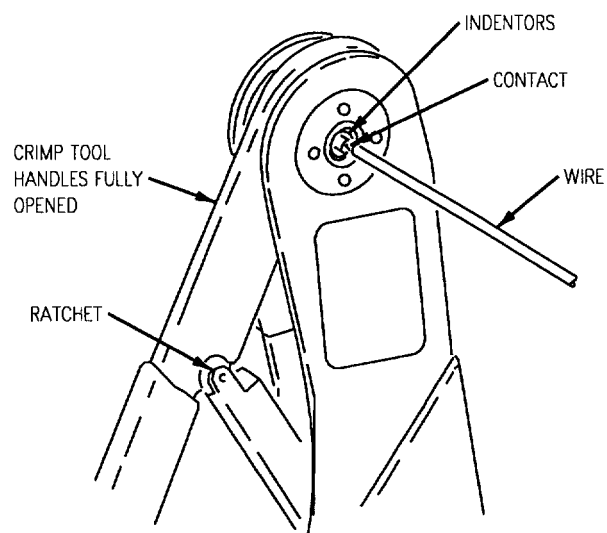
Figure 21. Insulation Strip Check

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 22, detail A.

NOTE

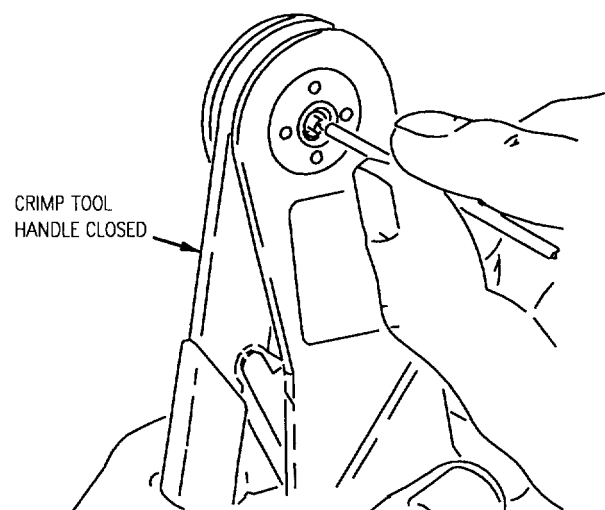
Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 22, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

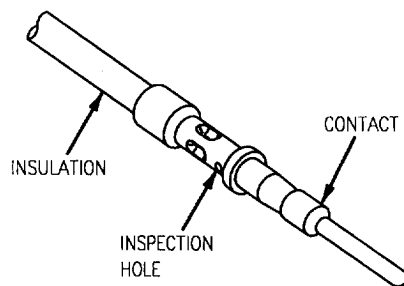
Figure 22. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole figure 23.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(408-3)01-CATI

Figure 23. Inspection of Crimped Contact

14. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly. Refer to paragraph 7.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

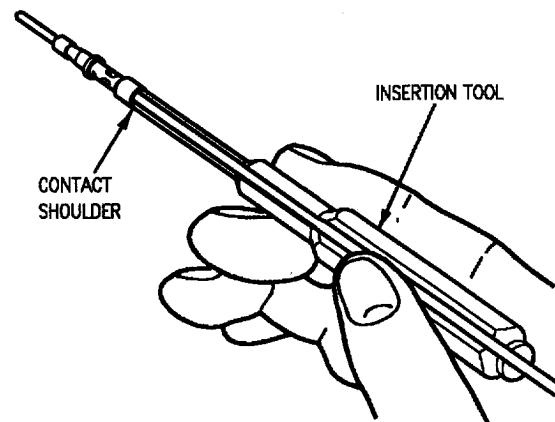
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 24.



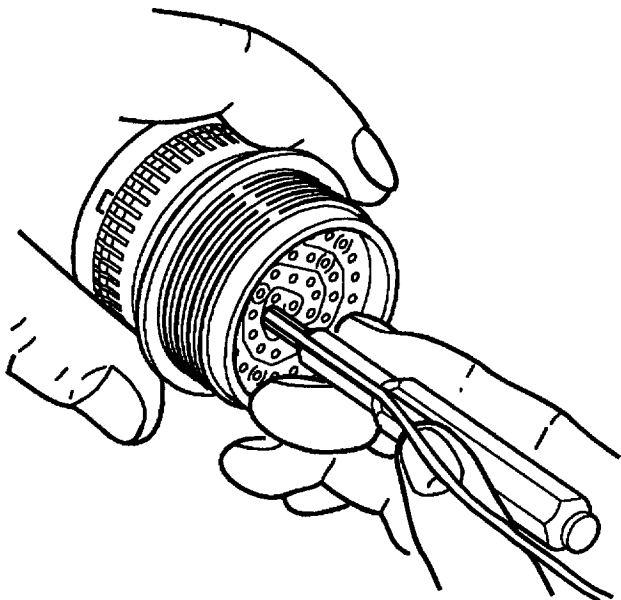
Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(723-2)01-CATI

Figure 24. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention times snap into place behind contact shoulder. See figure 25.

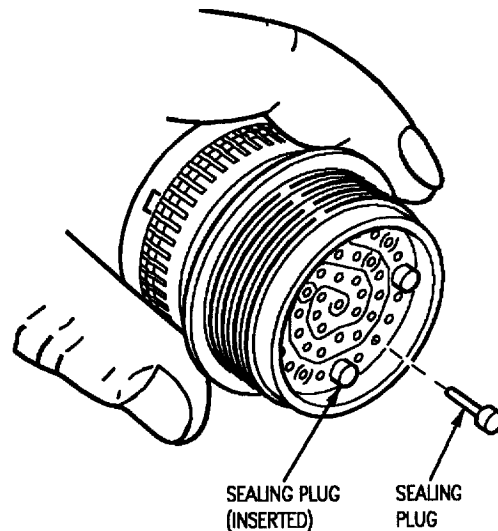


F/A-18-WRM-(712-1)01-CATI

Figure 25. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 26.



F/A-18-WRM-(712-2)01-CATI

Figure 26. Inserting Sealing Plug(s) into Connector

15. WIRED CONTACT REMOVAL FROM CONNECTOR.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly. Refer to paragraph 7.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

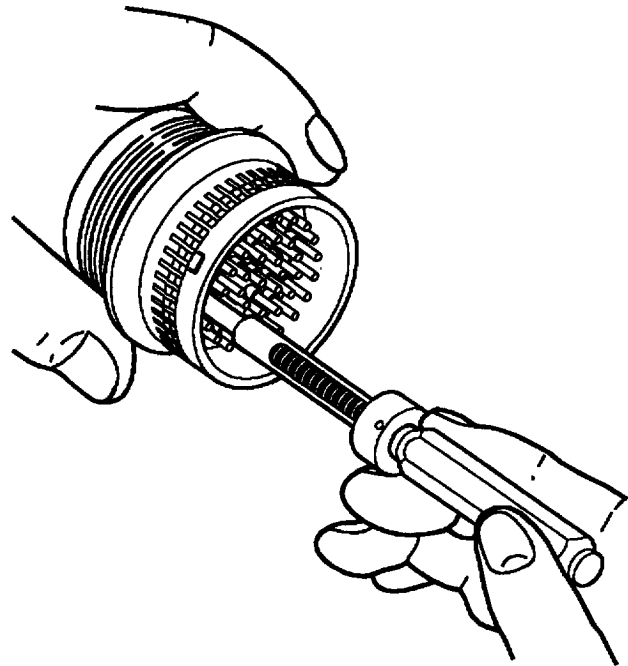
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed.

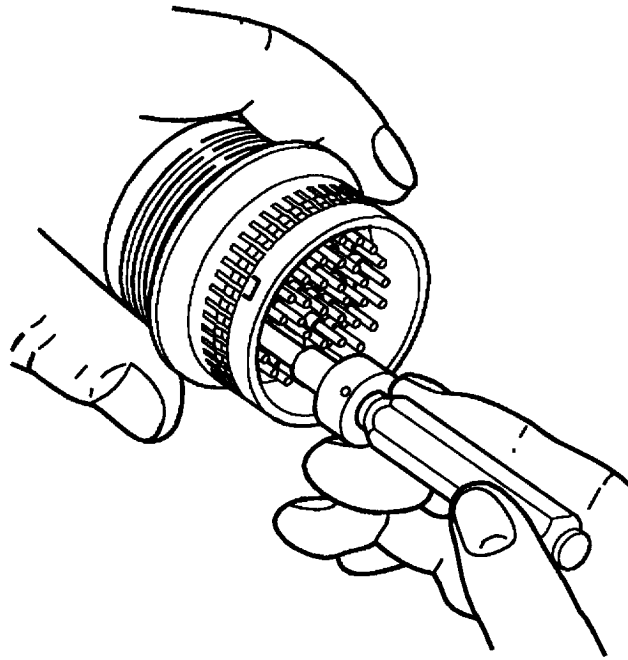
e. Holding removal tool at a right angle to front insert face, push tool straight toward rear of connector, firmly pressing tool to positive stop when it bottoms in insert cavity. See figure 27.



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Figure 27. Unlocking Wired Contact Mechanism

f. Maintain pressure on tool handle and slide collar of tool forward until it stops. Contact shall be partly ejected from rear of connector insert. See figure 28.

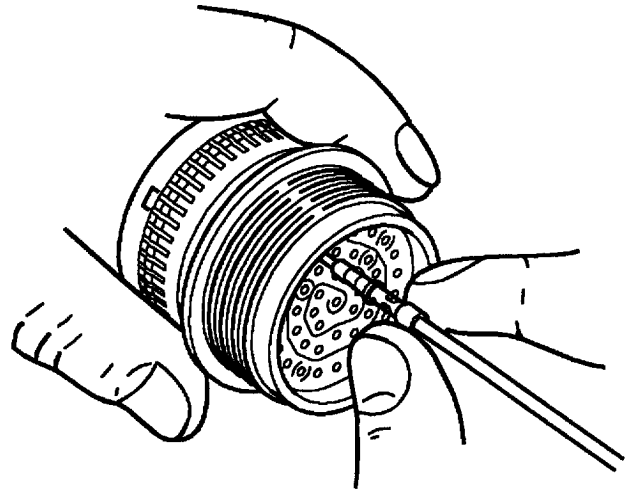


F/A-18-WRM-(710-2)01-CATI

Figure 28. Removing Wired Contact from Connector

g. Remove tool from contact cavity by pulling straight back to clear connector insert face.

h. Remove contact from rear of connector. See figure 29.



F/A-18-WRM-(712-3)01-CATI

Figure 29. Extracting Wired Contact from Connector

16. UNWIRED CONTACT REMOVAL FROM CONNECTOR.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly. Refer to paragraph 7.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Remove sealing plug from contact cavity of unwired contact to be removed.

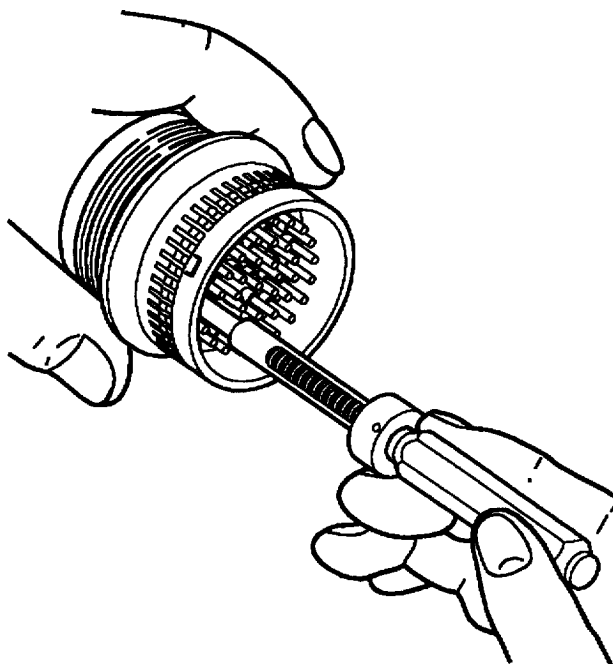
WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

e. Working from front (mating end) of connector slide hollow end of removal tool over contact to be removed.

f. Firmly push tool straight into contact cavity until probe bottoms in insert. See figure 30.



F/A-18-WRM-(710-1)01-CATI

Figure 30. Unlocking Unwired Contact Mechanism

g. Maintain pressure on tool handle and push plunger knob forward to eject contact partially from rear of connector insert. See figure 31.

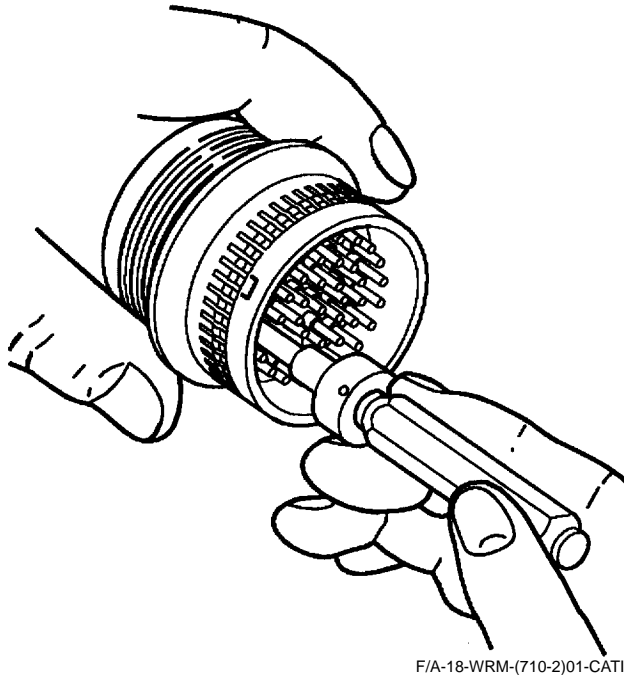


Figure 31. Removing Unwired Contact from Connector

h. Remove tool from contact cavity by pulling straight back from connector to clear insert face.

i. Remove contact from rear of connector. See figure 32.

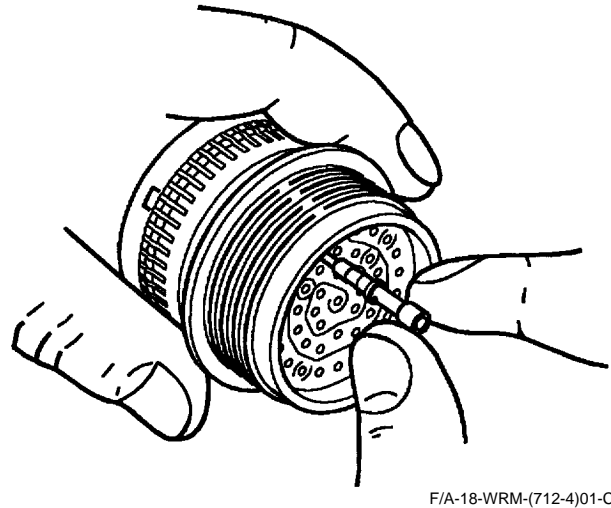


Figure 32. Extracting Unwired Contact from Connector

17. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. If backshell requires disassembly. Refer to paragraph 7.
- b. Remove hardware from rear of connector and slide back over wire bundle.
- c. Select removal tool specified in table 1 for affected connector part number.



Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

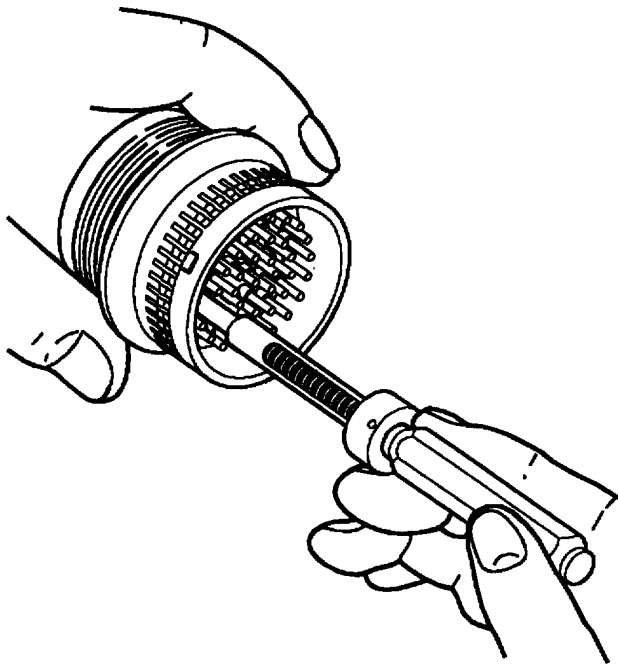
- d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

- e. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed.

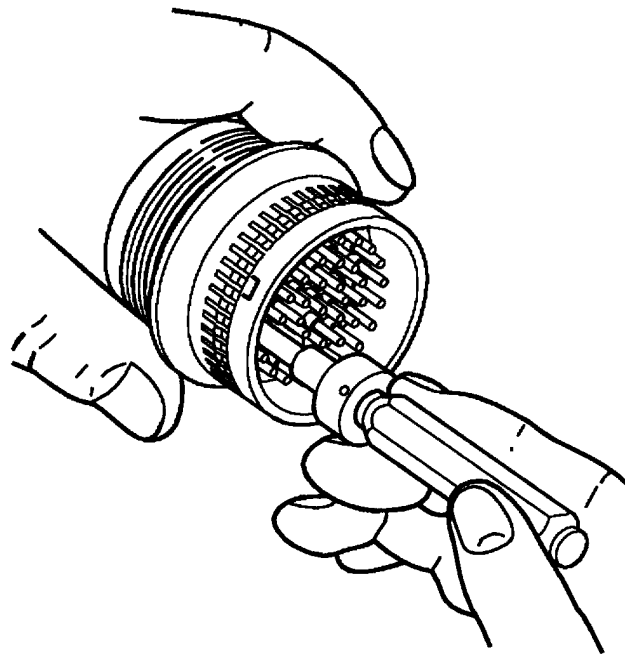
f. Slowly push unwired removal tool straight into connector insert until probe bottoms to release contact retention mechanism. See figure 33.



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Figure 33. Unlocking Broken Wired Contact Mechanism

g. Maintain pressure on tool handle while gently and slowly pushing plunger knob forward. Broken wire and contact shall be partly ejected at rear of connector insert. See figure 34.

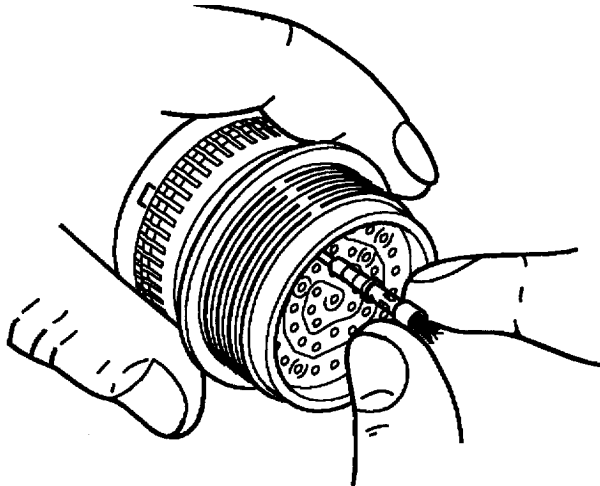


F/A-18-WRM-(710-2)01-CATI

Figure 34. Removing Broken Wired Contact from Connector

h. Remove tool from connector insert by pulling straight back from connector to clear insert face.

i. Remove contact and broken wire from rear of connector. See figure 35.



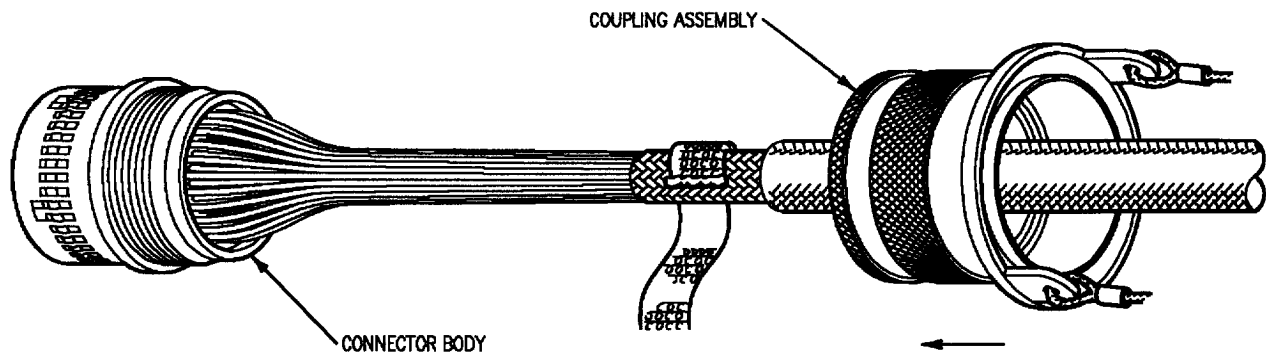
F/A-18-WRM-(712-5)01-CAT I

**Figure 35. Extracting Broken Wired
Contact from Connector**

**18. CONNECTOR AND BACKSHELL
REASSEMBLY.**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

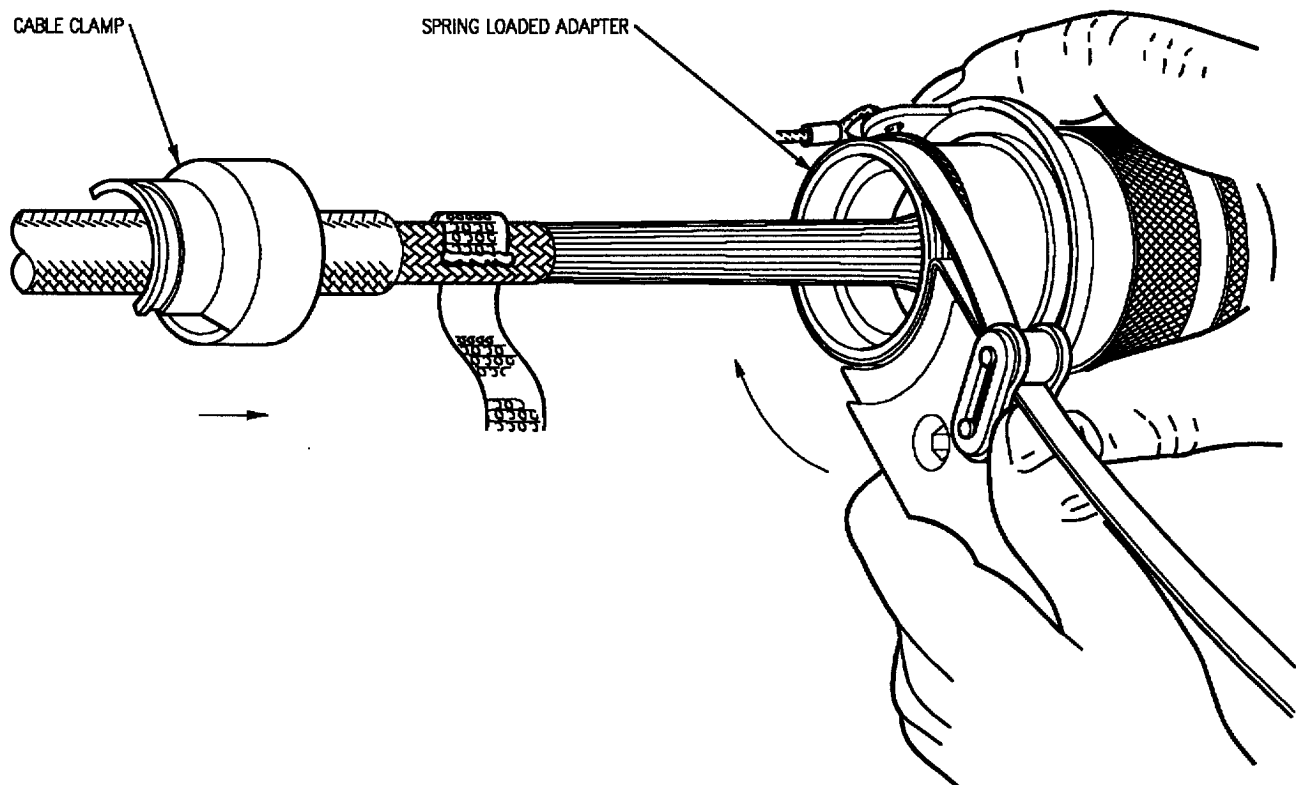
- a. Slide coupling assembly onto connector body.
See figure 36.



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Figure 36. Coupling Body Installation

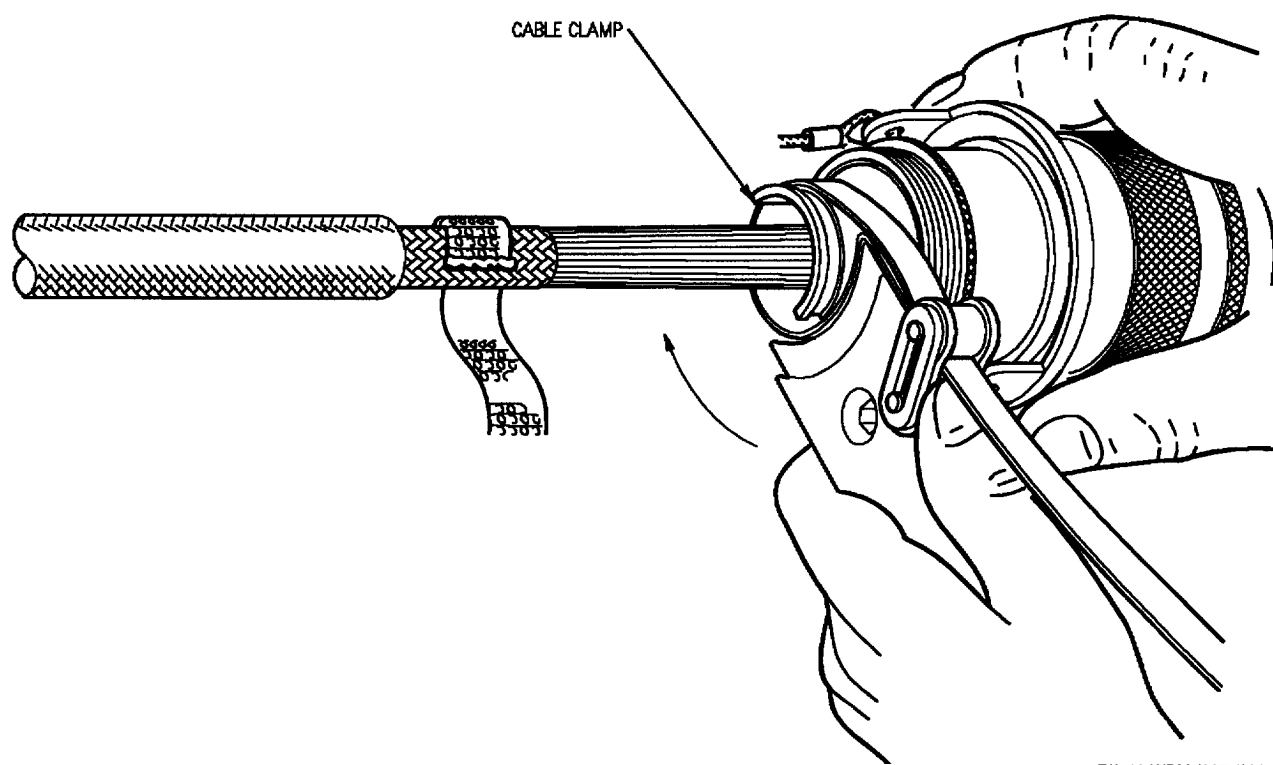
b. Slide spring and spring loaded adapter onto connector body and tighten. See figure 37.



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Figure 37. Spring and Spring Loaded Adapter Installation

c. Slide cable clamp forward into spring loaded adapter and tighten. See figure 38.



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Figure 38. Cable Clamp Installation

d. Starting at the metal braid wrap the exposed wire with insulation tape using a 50 percent overlap. See figure 39.

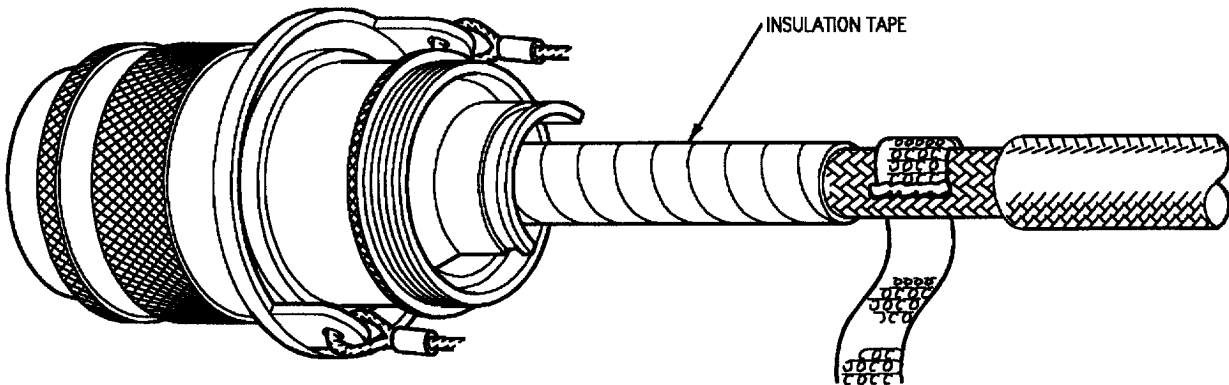


Figure 39. Insulation Tape Installation

e. Install silicone rubber tape buildup underneath cable clamp tab. See figure 40.

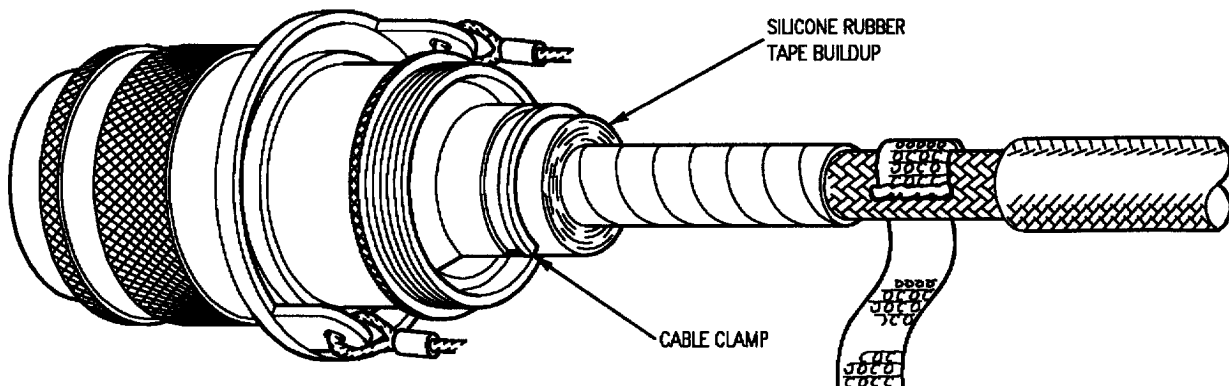
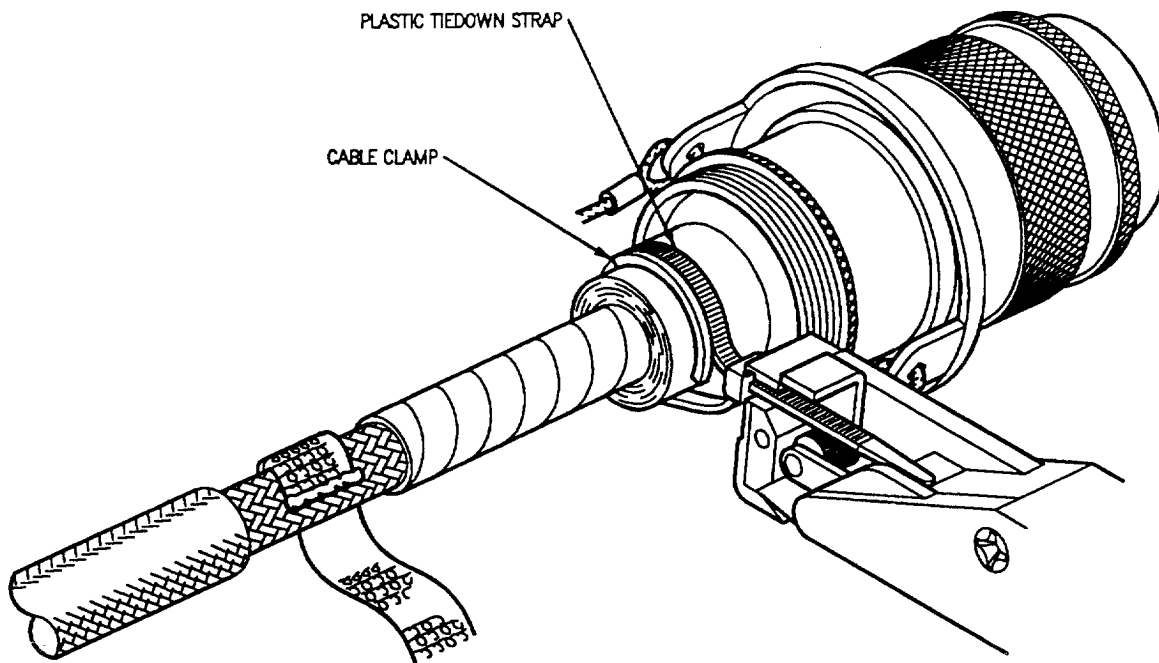


Figure 40. Silicone Rubber Tape Buildup

f. Install plastic tiedown strap. See figure 41.



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Figure 41. Plastic Tiedown Strap Installation

g. Solder wire mesh tape to exposed wire braid. Refer to paragraph 4. See figure 42.

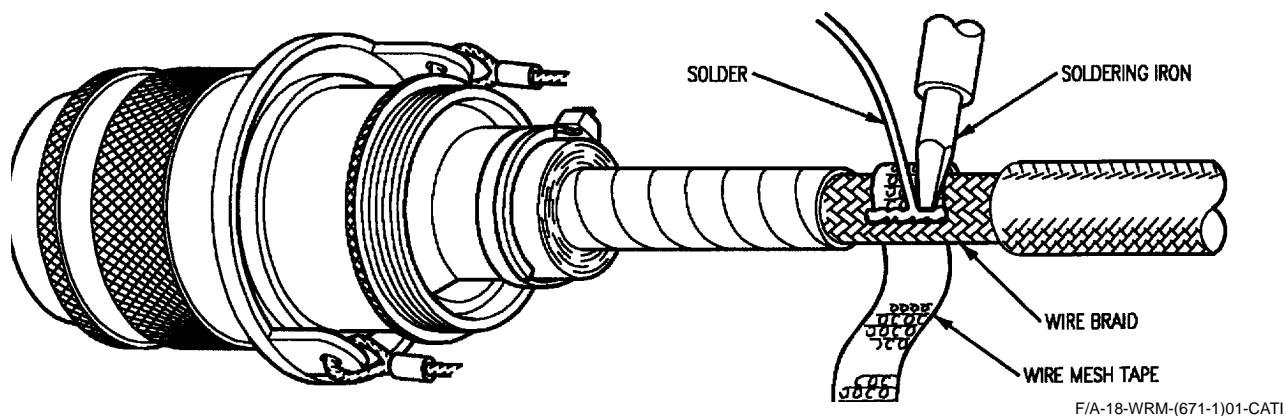


Figure 42. Soldering Wire Mesh Tape to Wire Braid

h. Wrap wire mesh tape clockwise using a 50 percent overlap, toward connector. Cover thread on spring loaded adapter. See figure 43.

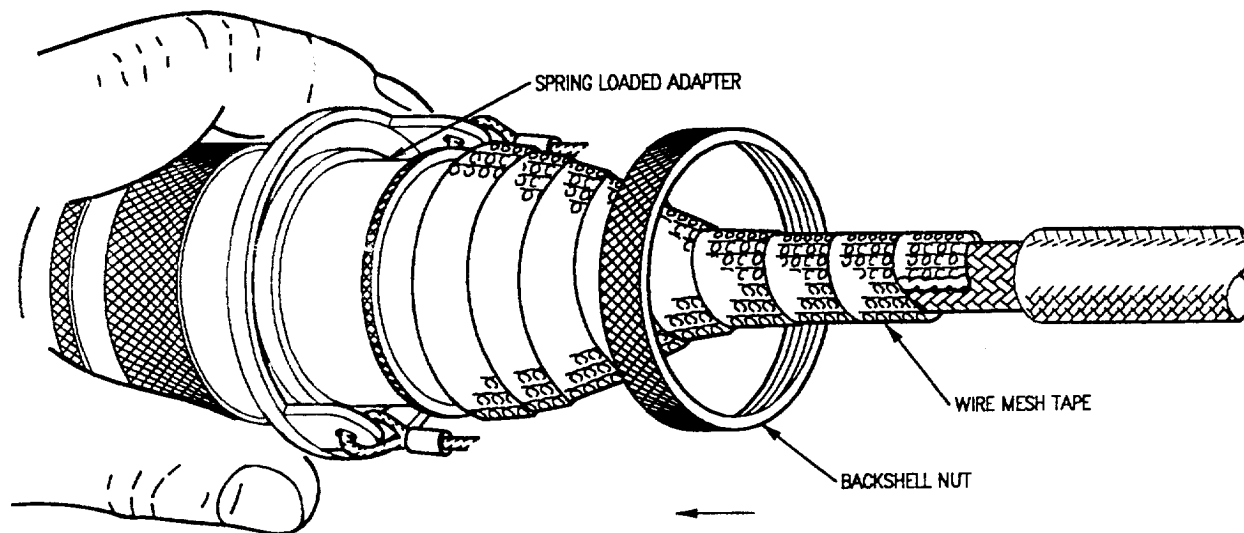
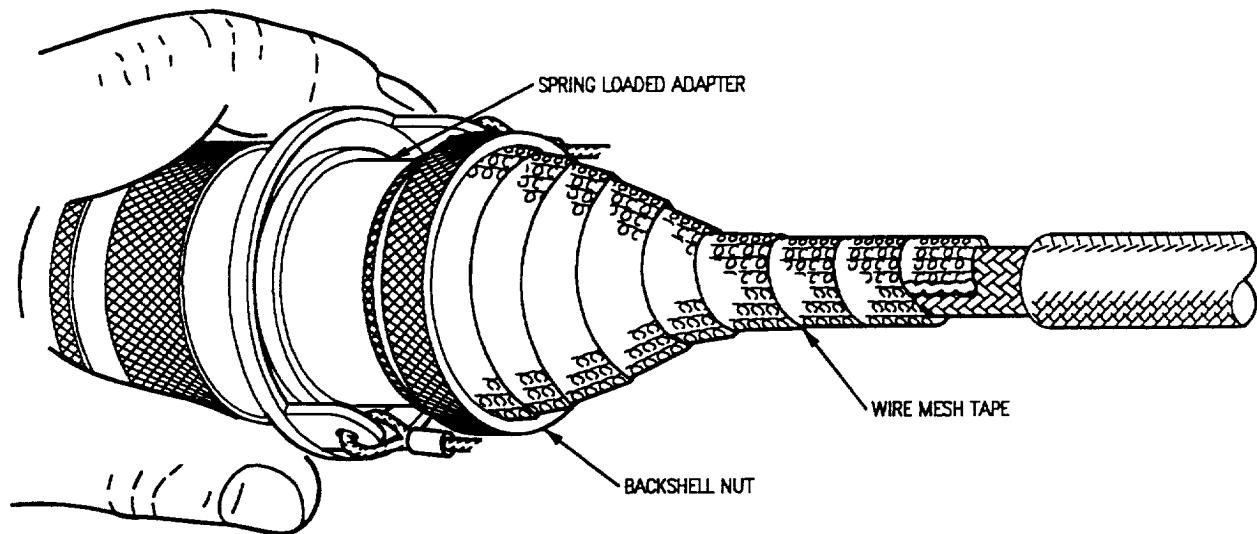


Figure 43. Wire Mesh Tape Installation

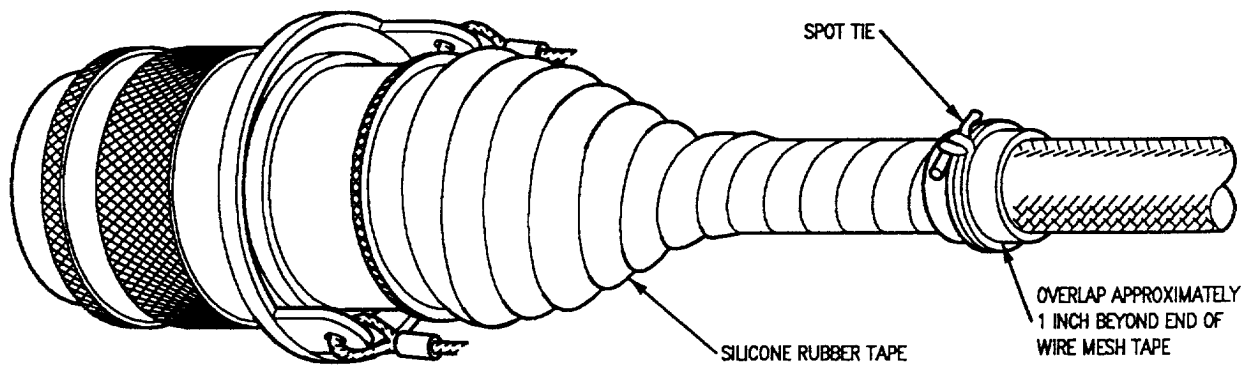
- i. Slide backshell nut over wire mesh tape and tighten to spring loaded adapter. See figure 44.



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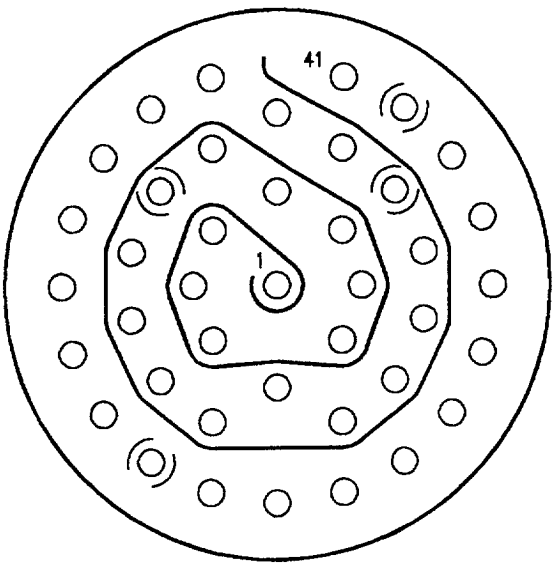
Figure 44. Installation of Backshell Nut

- j. Cover wire mesh tape wrap with a 50 percent overlap wrap of silicone rubber tape. Secure with spot tie. See figure 45.



F/A-18-WRM-(674-1)01-CATI

Figure 45. Silicone Rubber Tape Boot Installation



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(920-41)01-CATI

Reference Designation to Backshell Data Index for AV628-2 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W251	N/A	See paragraph 7
61P-Y101	N/A	See paragapg 7

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Turret Head	M22520/1-02
Insertion Tool	M81969/17-03
Removal Tool	M81969/19-07
Removal Tool (Unwired)	M81969/19-07
Removal Tool Probe	N/A

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 41	7/32	M39029/31-240	MS27186-1

Figure 46. AV628-2 Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****MS3470, MS3472, MS3475, AND MS3476 (MIL-C-26482)****REAR RELEASE TYPE CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Protective Boot Installation for Environmental Type Connectors With	
Metal Cable Clamps	WP080 00
Protective Boot Installation for Environmental Type Connectors With	
Molded Plastic Cable Clamps	WP070 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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












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







Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 54	—	Incorporation of Video Recorder Set	1 Oct 93	—

Reference Designation to Figure Number Index

Reference Designation	Figure No.
61P-B185	32
61P-E009A	31
 8 64P-E001G	25
65J-P004	23
65J-R005	23
 4 65P-K003	27
 3 65P-L003	27
 1 65P-P001A	26
 2 65P-P001A	29
 7 65P-P001B	26
 1 65P-P001B	29
 1 65P-R002A	26
 2 65P-R002A	29
 7 65P-R002B	26
 1 65P-R002B	29
67P-T001A	27
69P-F001B	30
71P-B001B	28
72P-A002B	27
76J-B023B	21
76P-J008A	28
76P-J008B	27
77J-G002	22
 6 79P-E021A	24
 5 79P-L021A	24

LEGEND

 1	161353 THRU 161521.
 2	161522 AND UP.
 3	F/A-18A
 4	F/A-18B
 5	F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54
 6	F/A-18B 161704 AND UP; ALSO 161354 THRU 161360 AFTER F18 AFC 54
 7	161704 THRU 161947, 162836 AND UP
 8	161353 THRU 161528; ALSO 161702 AND UP BEFORE F18 IAFC 50

1. DESCRIPTION.

2. The MS3470, MS3472, MS3475 and MS3476 electrical connectors are miniature, circular, quick-connect/disconnect, environmental resisting connectors that meet the requirements of MIL-C-26482. This connector can withstand operating temperatures from -55°C to +175°C and uses rear-release (rear insertion and removal) crimp type contacts with bayonet coupling.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-26482, connectors used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 Grade B	Isopropyl Alcohol

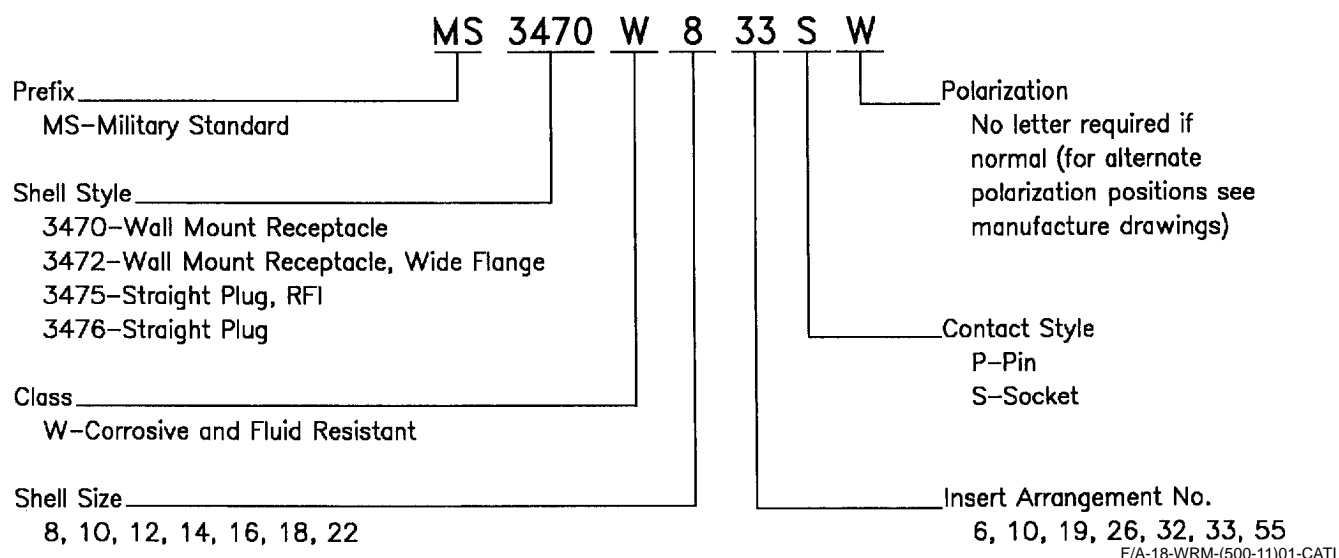


Figure 1. Military Part Numbering System for MIL-C-26482 Connectors

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

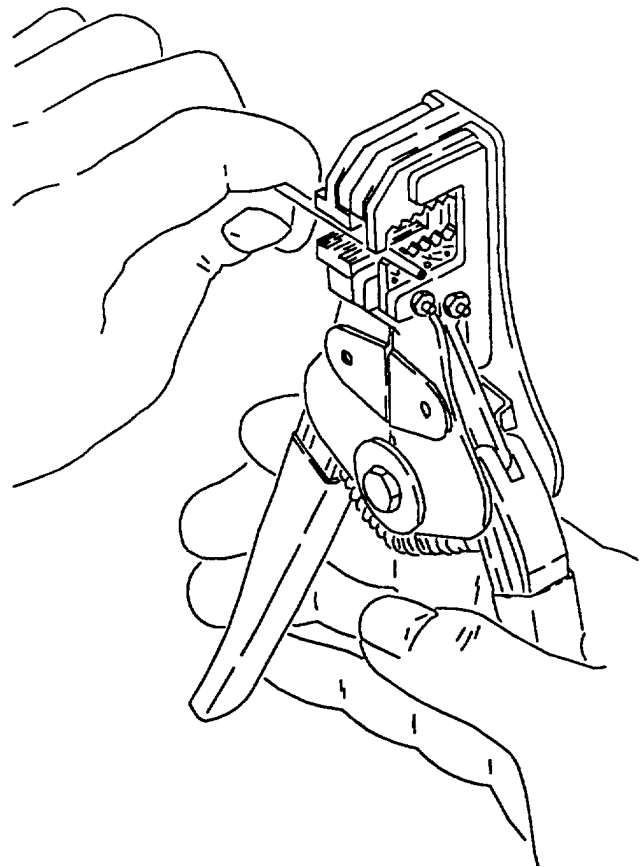
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

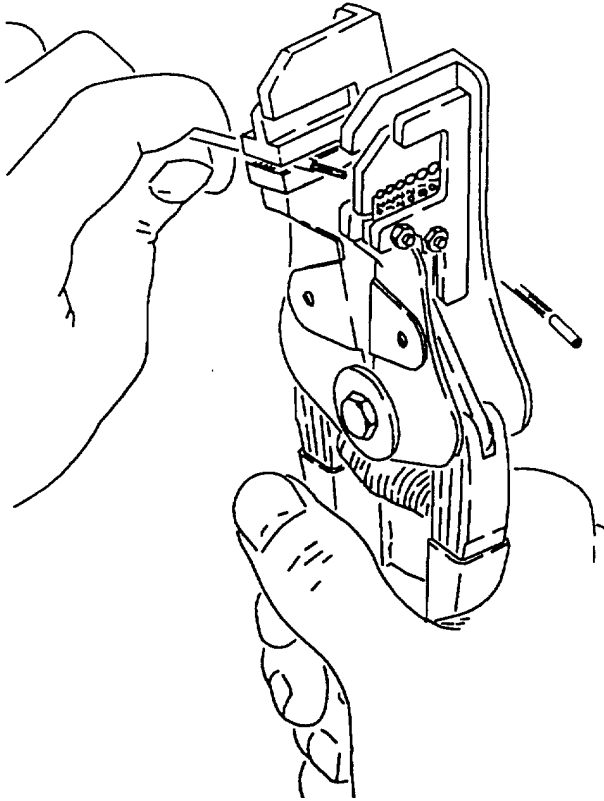
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



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Figure 2. Placing Wire in Slot of Stripping Tool

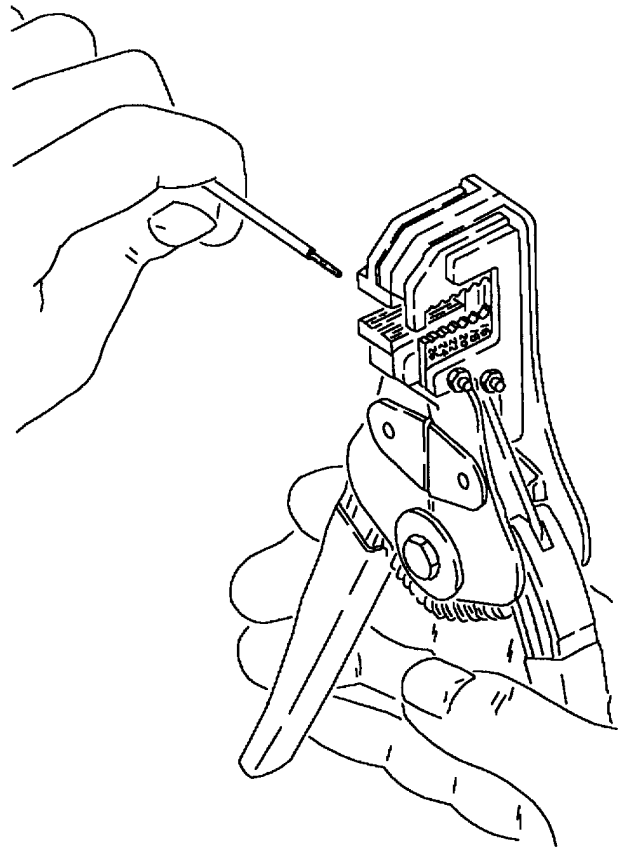
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.



F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.

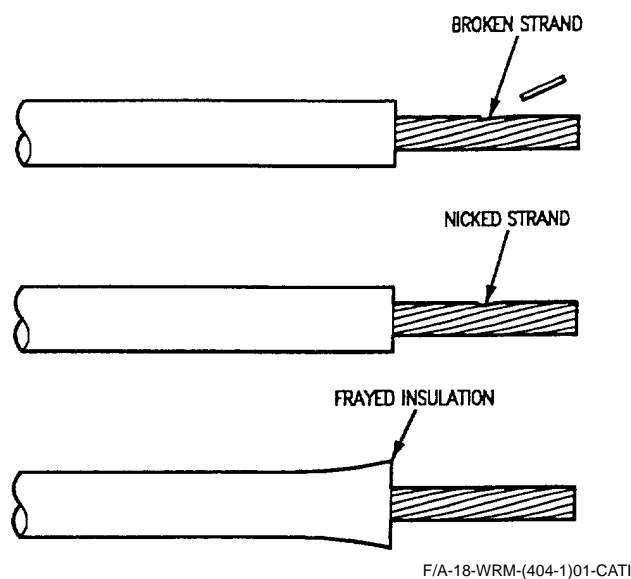


Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

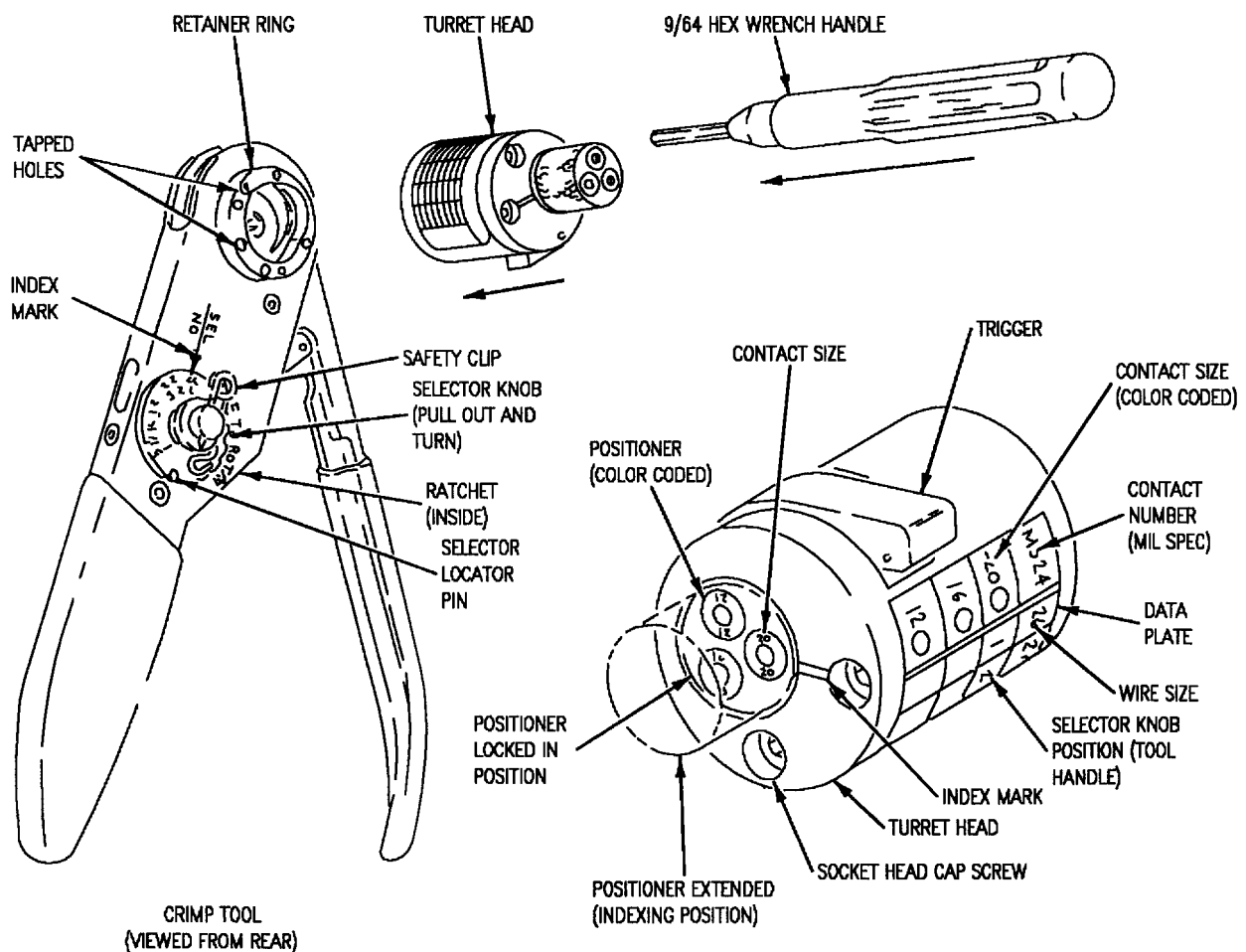
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



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Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

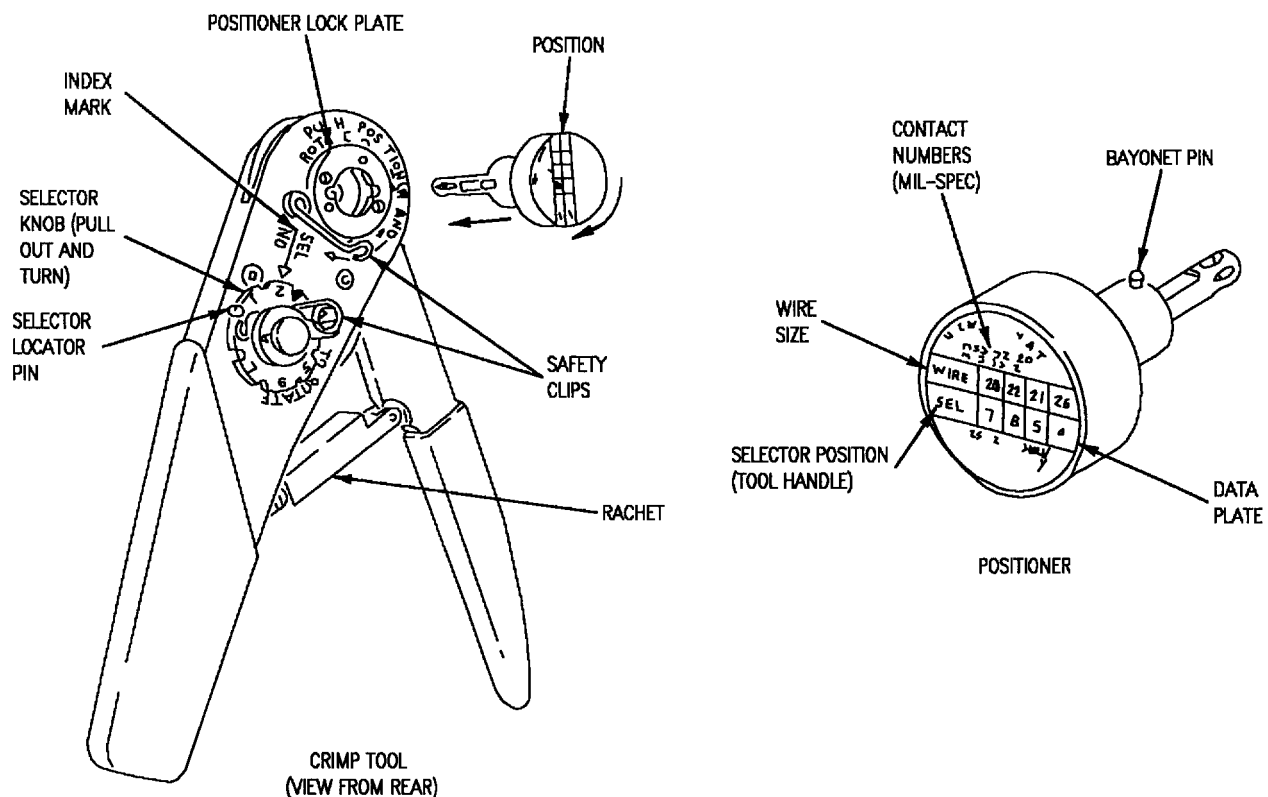
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

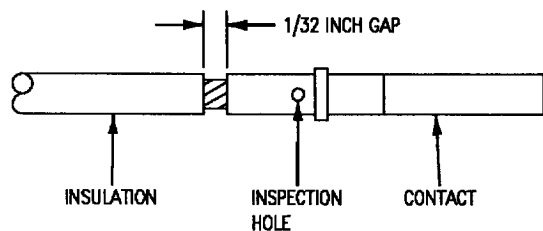
c. Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 8.



F/A-18-WRM-(721-13)02-CATI

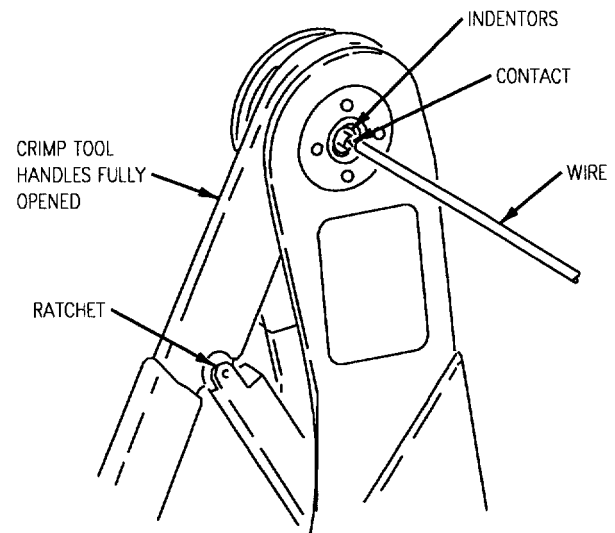
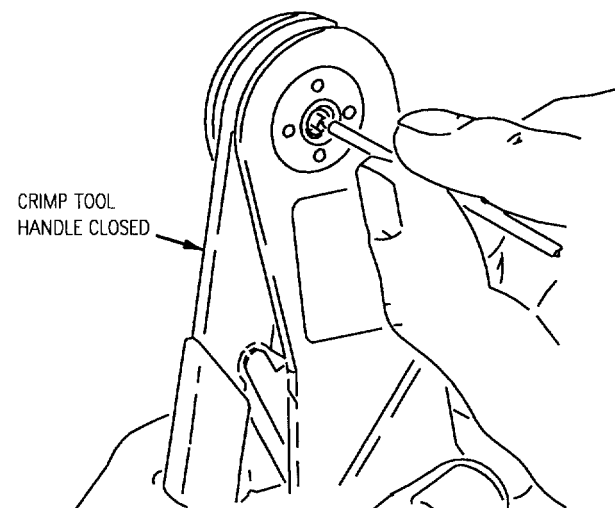
Figure 8. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turrent. See figure 9, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)**DETAIL A****DETAIL B**

F/A-18-WRM-(407-1)01-CATI

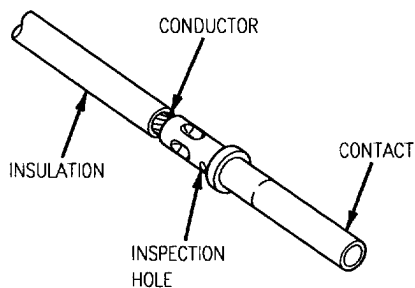
Figure 9. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(408-2)01-CATI

Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

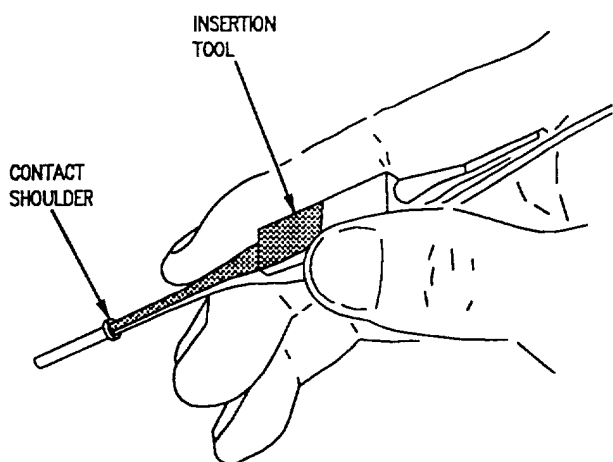
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 11.



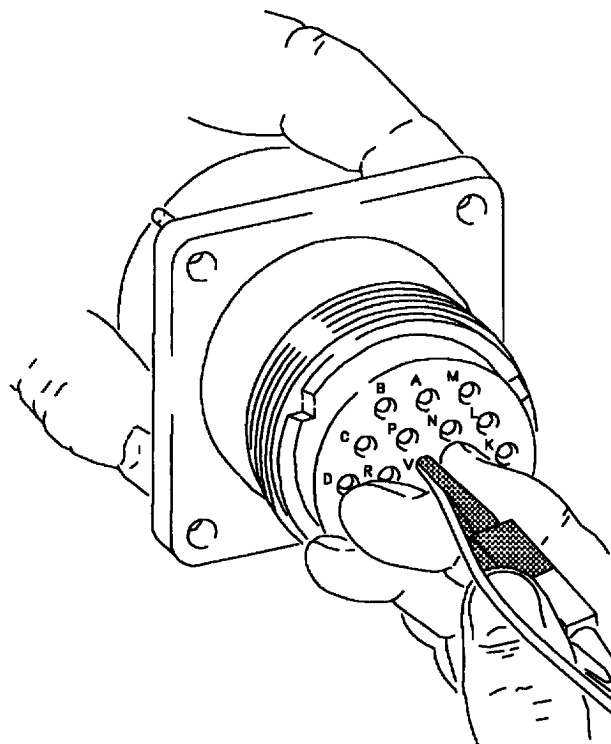
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 12.

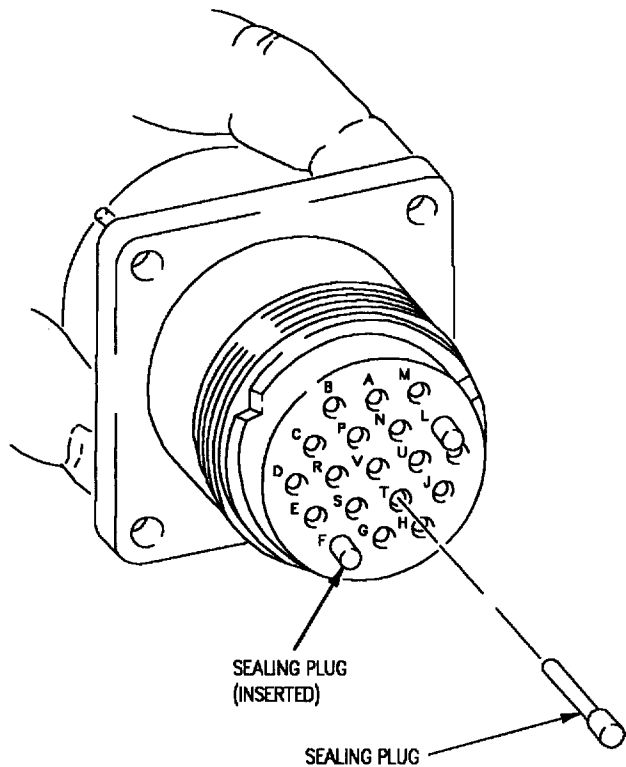


F/A-18-WRM-(545-1)02-SCAN

Figure 12. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.



F/A-18-WRM-(545-2)02-SCAN

Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

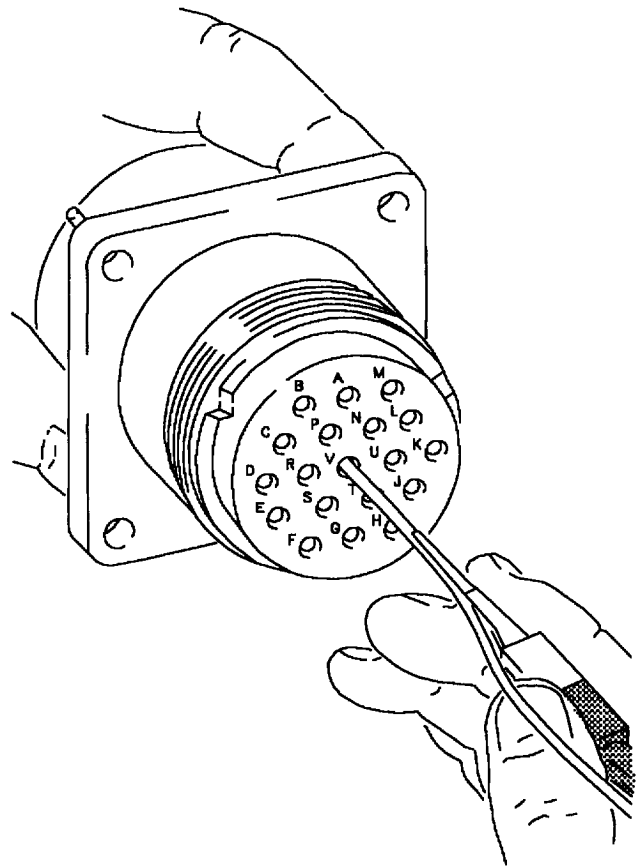
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

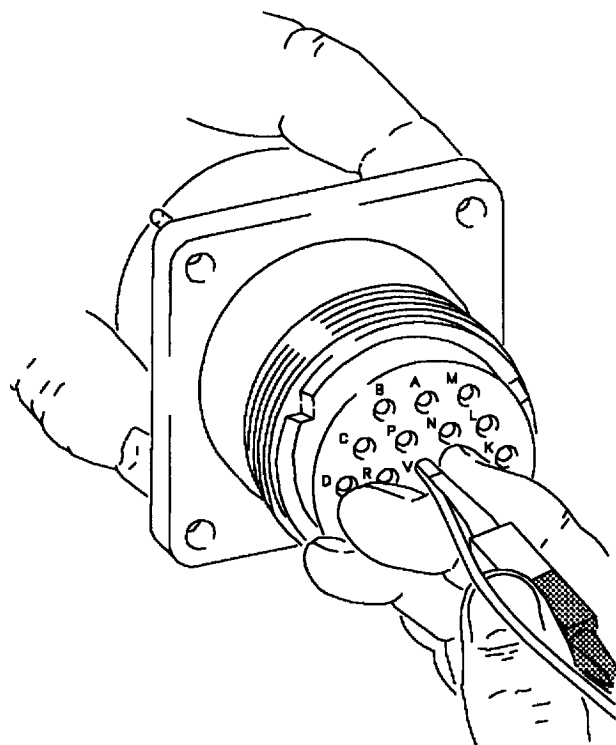
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.



F/A-18-WRM-(545-3)02-SCAN

Figure 14. Removal Tool on Wire

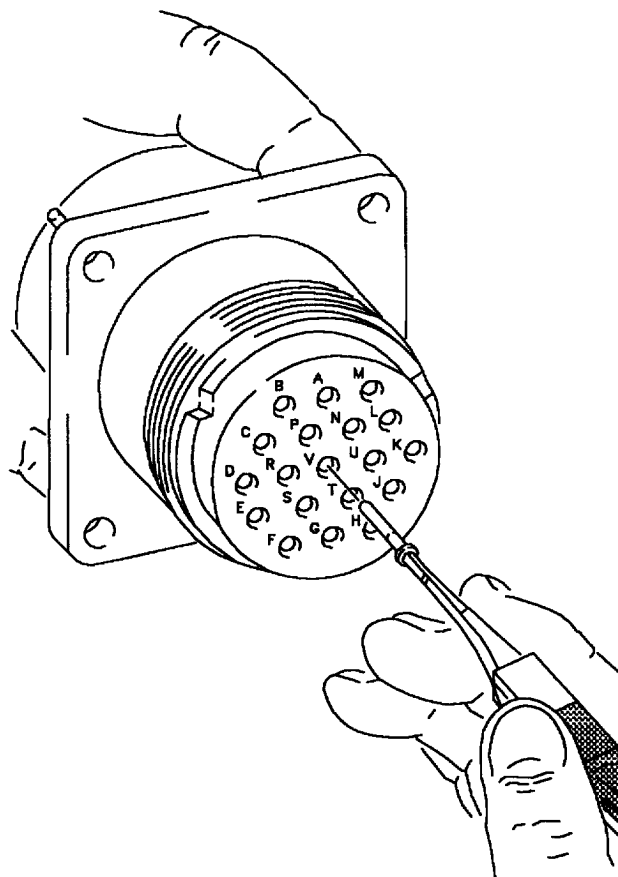
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.



F/A-18-WRM-(545-4)02-SCAN

Figure 15. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



F/A-18-WRM-(545-5)02-SCAN

Figure 16. Removing Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

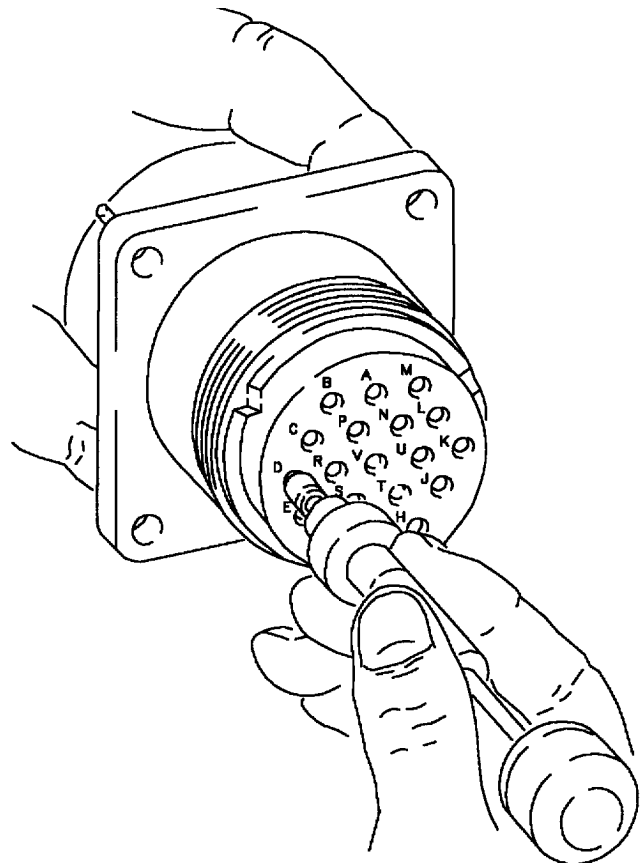
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.



Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

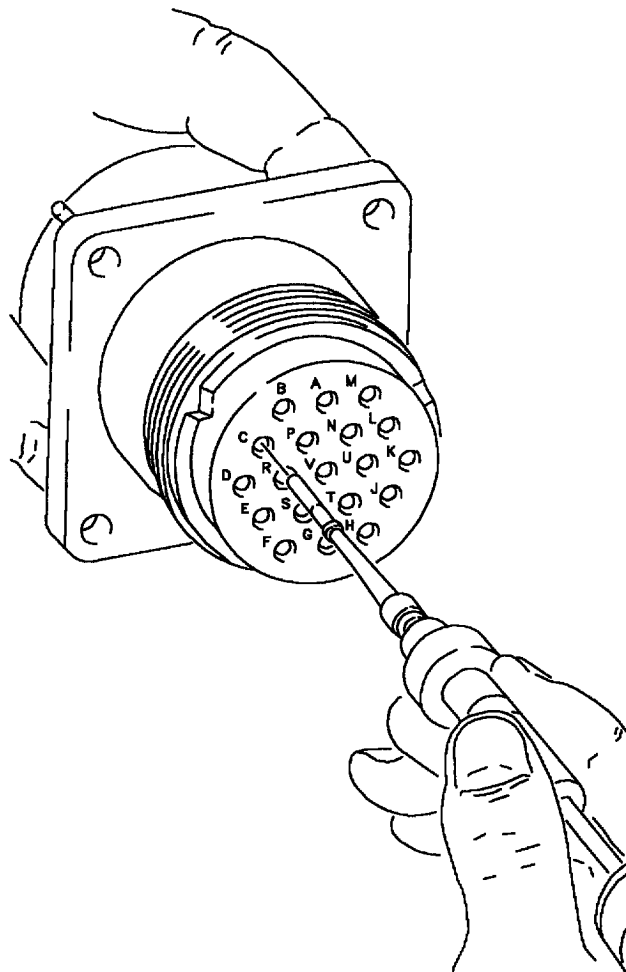
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 17.



F/A-18-WRM-(545-6)02-SCAN

Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



F/A-18-WRM-(545-7)02-SCAN

Figure 18. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

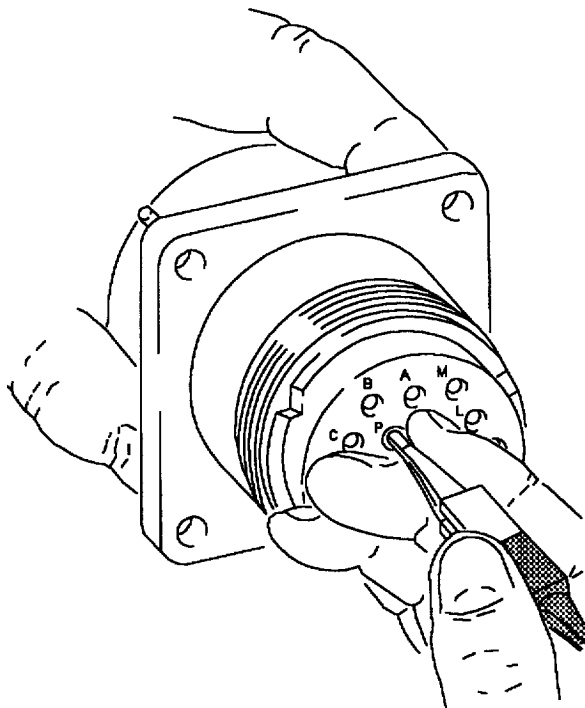
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



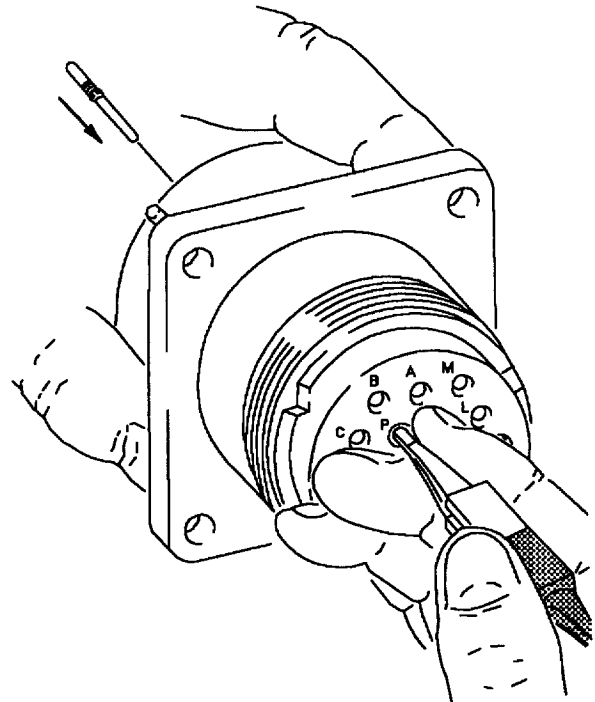
F/A-18-WRM-(545-8)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

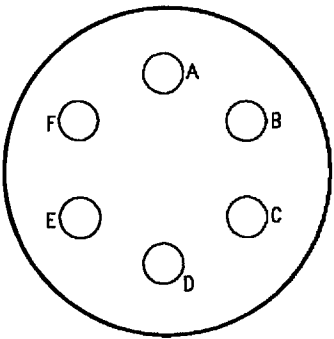
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



F/A-18-WRM-(545-9)02-SCAN

Figure 20. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-6A)01-CATI

Reference Designation to Backshell Data Index for MS3470W10-6S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
76J-B023B	None	None

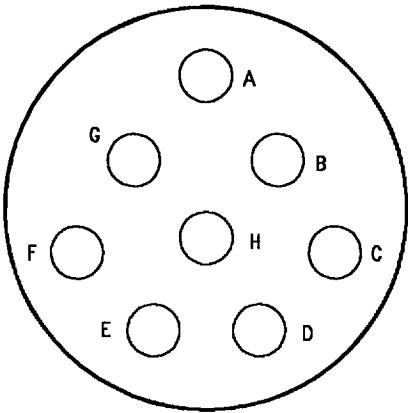
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/5-115	MS27488-20

Figure 21. MS3470W10-6S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-8)01-CATI

Reference Designation to Backshell Data Index for MS3470W16-8S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 77J-G002	M85049/51-1-16W	080 00
2 77J-G002	M85049/52-1-16W	080 00
1 F/A-18A 162394 AND UP		
2 F/A-18A 161353 THRU 161987		

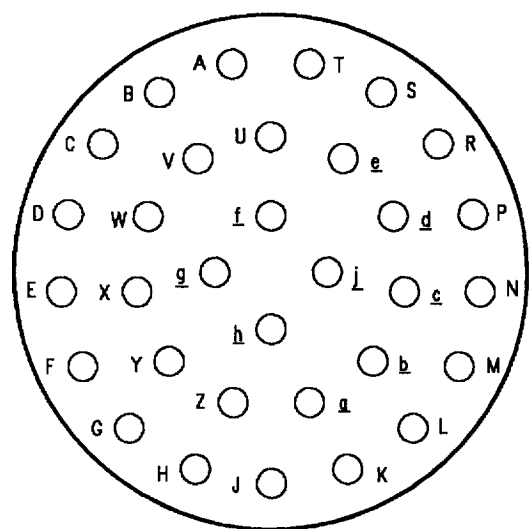
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H	7/32	M39029/5-116	MS31187-16-2

Figure 22. MS3470W16-8S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-32)01-CATI

Reference Designation to Backshell Data Index for MS3472W18-32P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
65J-P004	M85049/46W18	070 00
65J-R005	M85049/46W18	070 00

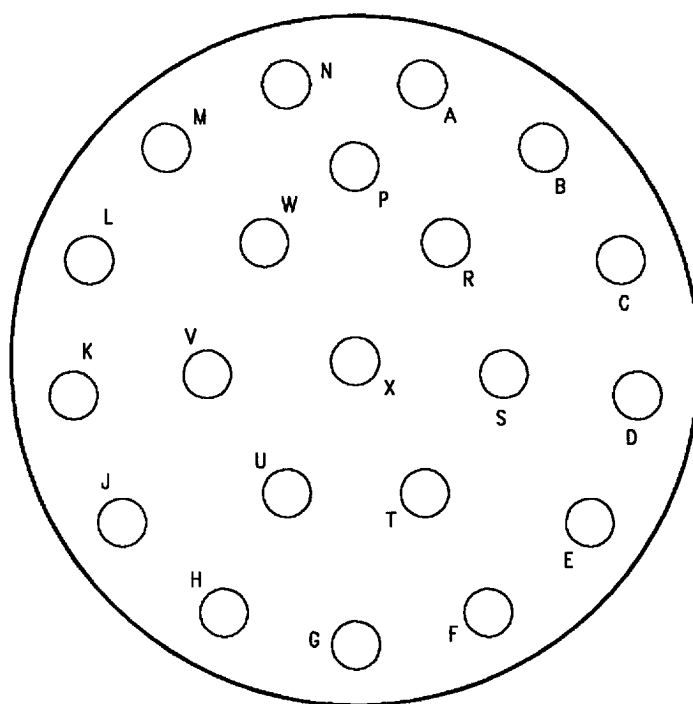
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z a THRU h and j	7/32	M39029/4-110	MS31187-20-2

Figure 23. MS3472W18-32P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-21)01-CATI

Reference Designation to Backshell Data Index for MS3475W22-21S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 79P-E021A	M85049/51-1-22A	080 00
1 79P-L021A	M85049/52-1-22W	080 00
1 F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54. 2 F/A-18B 161704 AND UP; ALSO 161354 THRU 161360 AFTER F18 AFC 54.		

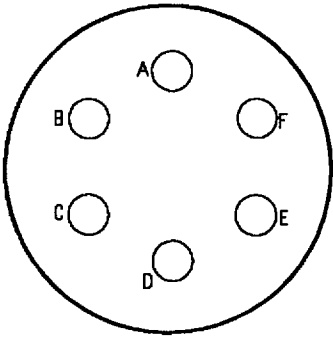
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Figure 24. MS3475W22-21S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU X.	7/32	M39029/5-116	MS31187-16-2



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(911-6A)01-CATI

Reference Designation to Backshell Data Index for MS3476W10-6P Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 64P-E001G	M85049/52-1-10W	080 00
 161353 THRU 161528; ALSO 161702 THRU 163175 BEFORE F18 IAFC 50		

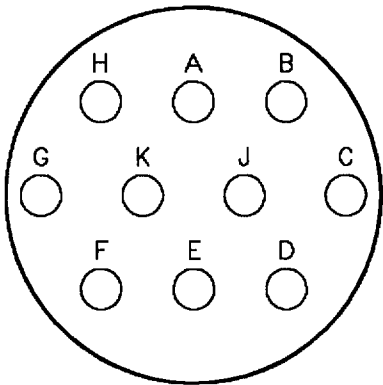
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/4-110	MS31187-20-2

Figure 25. MS3476W10-6P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-10A)01-CATI

Reference Designation to Backshell Data Index for MS3476W12-10SX Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 65P-P001A	M85049/51-1-12W	080 00
2 65P-P001B	M85049/51-1-12W	080 00
1 65P-R002A	M85049/51-1-12W	080 00
2 65P-R002B	M85049/51-1-12W	080 00
1 161353 THRU 161521		
2 F/A-18A 161522 AND F/A-18B 161704 THRU 161947, 162836 AND UP		

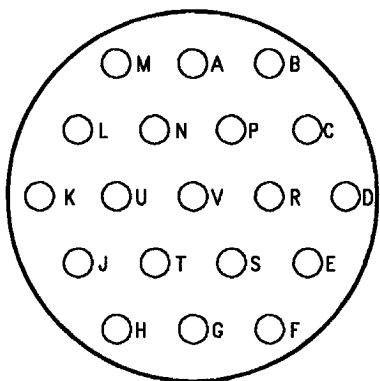
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H and J AND K	7/32	M39029/5-115	MS27488-20

Figure 26. MS3476W12-10SX Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(814-19)01-CATI

Reference Designation to Backshell Data Index for MS3476W14-19S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
67P-T001A	M85049/52-1-14W	080 00
72P-A002B	M85049/52-1-14W	080 00
76P-J008B	MS3188C09A	080 00

Reference Designation to Backshell Data Index for MS3476W14-19SX Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 65P-K003	M85049/52-1-14W	080 00
1 65P-L003	M85049/52-1-14W	080 00
1 F/A-18A		
2 F/A-18B		

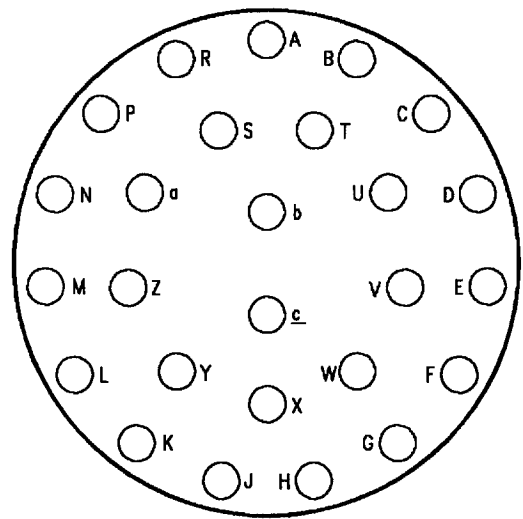
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P and R THRU V	7/32	M39029/5-115	MS27488-20

Figure 27. MS3476W14-19S and MS3476W14-19SX Connectors



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(817-26)01-CATI

Reference Designation to Backshell Data Index for MS3476W16-26S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
71P-B001B	M85049/51-1-16W	080 00
76P-J008A	M85049/51-1-16W	080 00

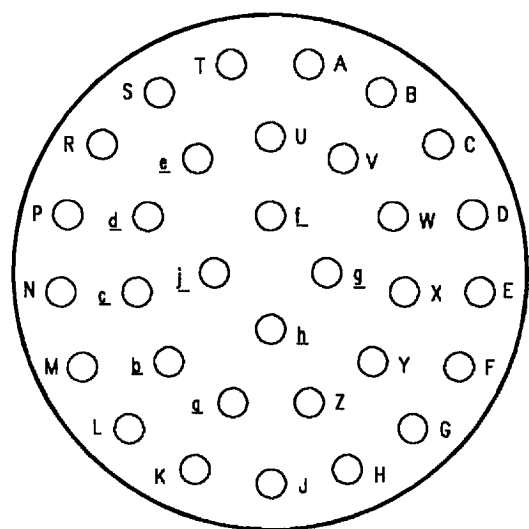
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1 -02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z and a THRU c	7/32	M39029/5-115	MS27488-20

Figure 28. MS3476W16-26S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-32)01-CATI

Reference Designation to Backshell Data Index for MS3476W18-32S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 65P-P001A	M85049/46W18	070 00
1 65P-P001B	M85049/46W18	070 00
2 65P-R002A	M85049/46W18	070 00
1 65P-R002B	M85049/46W18	070 00
1 161353 THRU 161521		
2 161522 AND UP		

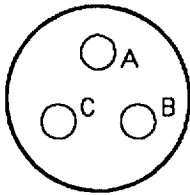
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU h and j	7/32	M39029/5-115	MS27488-20

Figure 29. MS3476W18-32S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(909-3)01-CATI

Reference Designation to Backshell Data Index for MS3476W8-33S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 61P-B185	M85049/51-1-8W	080 00
1 61P-B185	M85049/52-1-8W	080 00
1 161925 AND UP.		
2 161353 THRU 161924.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-1

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU C	7/32	M39029/5-115	MS27488-20

Figure 32. MS3476W8-33S Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****88-556119-70S (MIL-C-26482)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated With Electro-Magnetic Interference (EMI) Backshells	WP060 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

Reference Designation to
Figure Number IndexReference
Designation

Figure No.

Unwired connector cavities shall have a sealing
plug installed to prevent water intrusion.

61P-W098R

19

1. DESCRIPTION.

Support Equipment Required

2. The 88-556119-70S (MIL-C-26482 type 2) connector is a multiple conductor, circular environmental resistant connector with bayonet coupling and lanyard release.

Part Number or
Type Designation

Nomenclature

3308AS100

Repair Set-Wire and
Connector

Materials Required

None

3. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

4. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

5. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

NOTE

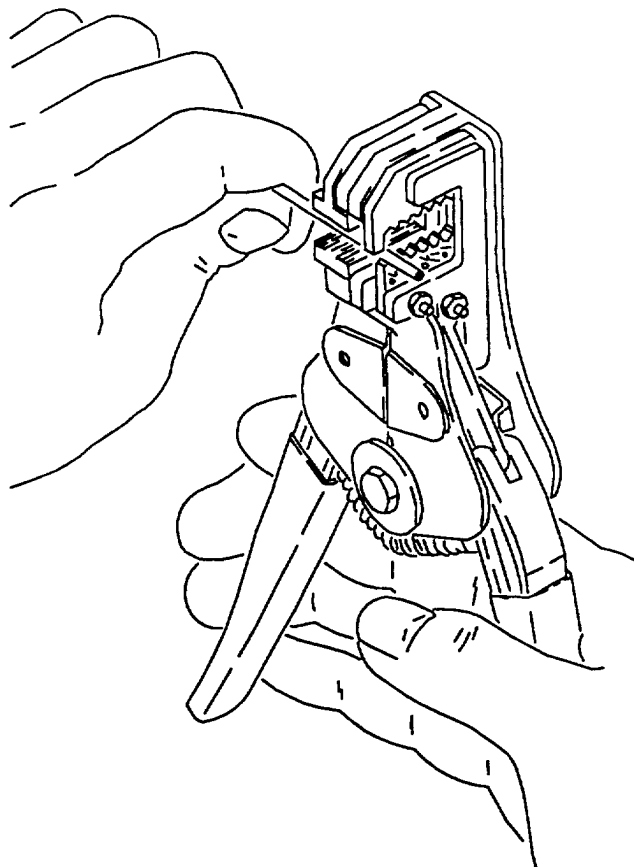
Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

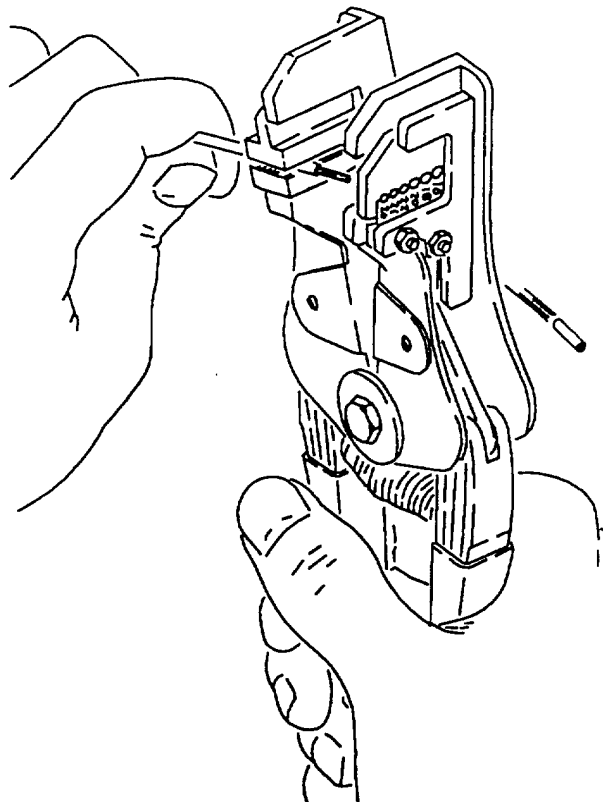
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.

e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(401-1)01-SCAN

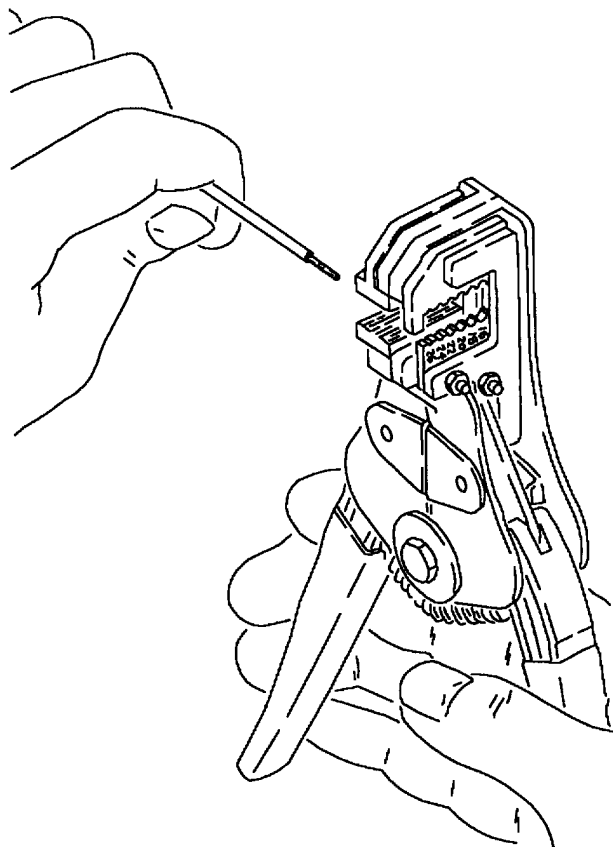
Figure 1. Placing Wire in Slot of Stripping Tool



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.

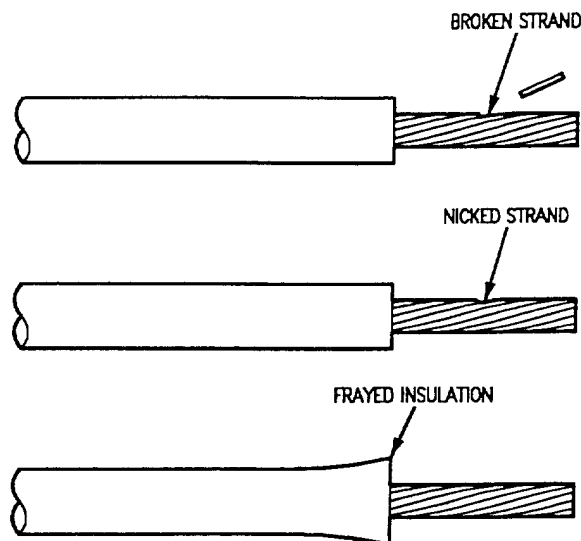


F/A-18-WRM-(403-1)01-SCAN

Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 4. Unacceptable Conditions

6. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

7. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

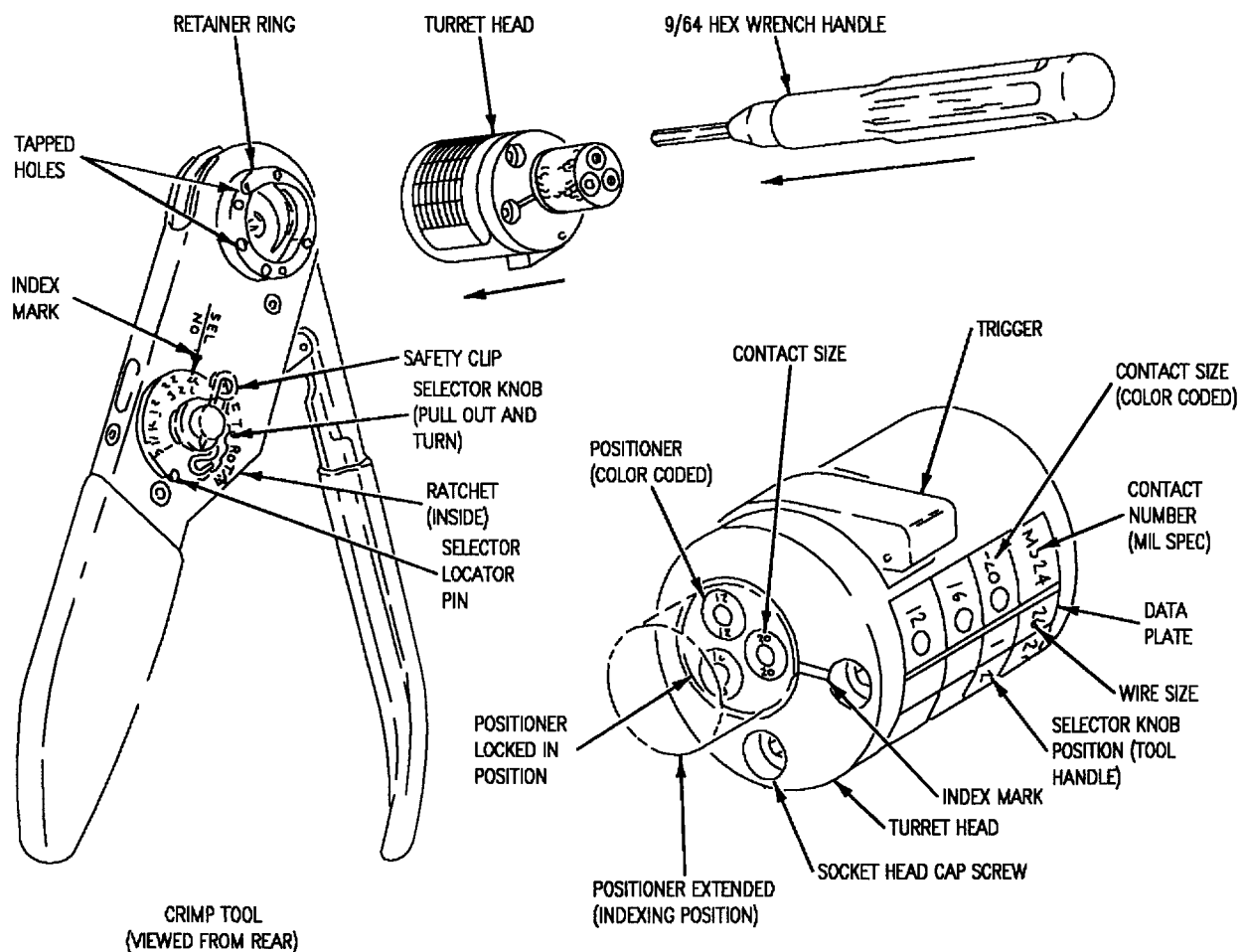
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 5.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 5. M22520/1-01 Crimp Tool Handle and Turret Head

8. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

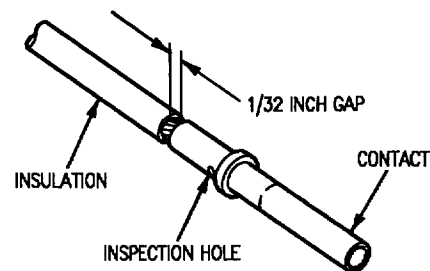
9. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.
- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

10. CONTACT CRIMPING.

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 6.



F/A-18-WRM-(406-2)01-CATI

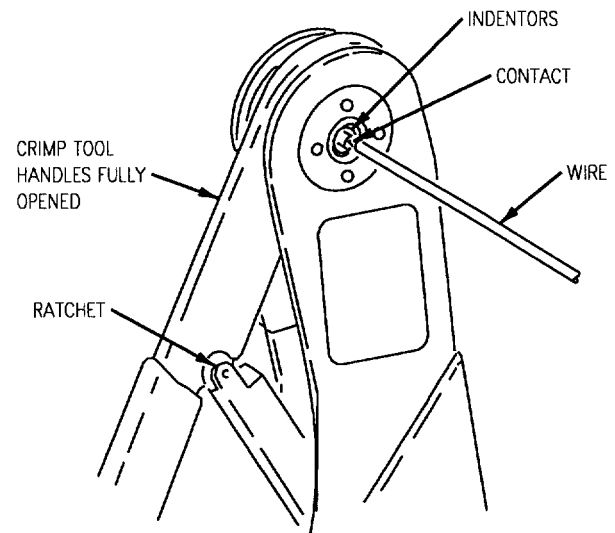
Figure 6. Strip Gap Check

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 7, detail A.

NOTE

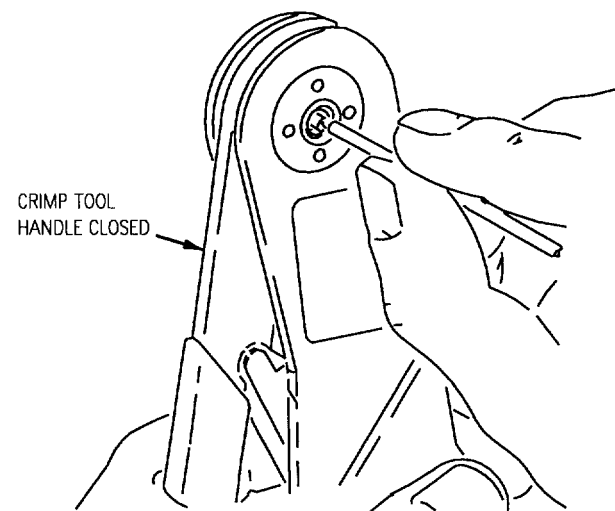
Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 7, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

Figure 7. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole figure 8.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.

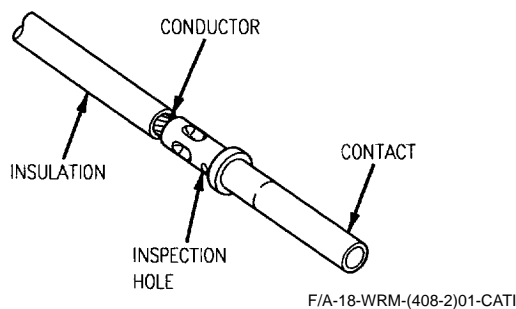


Figure 8. Inspection of Crimped Contact

11. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

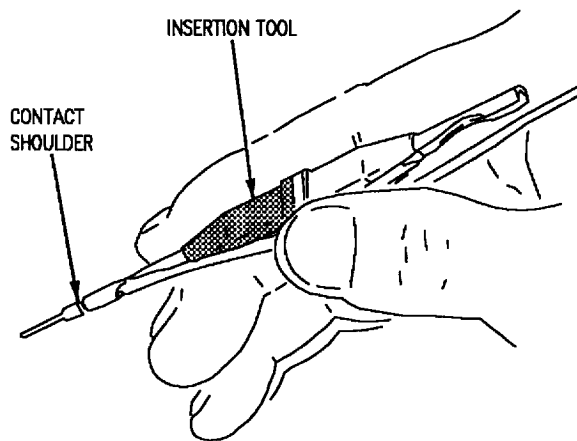
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 9.



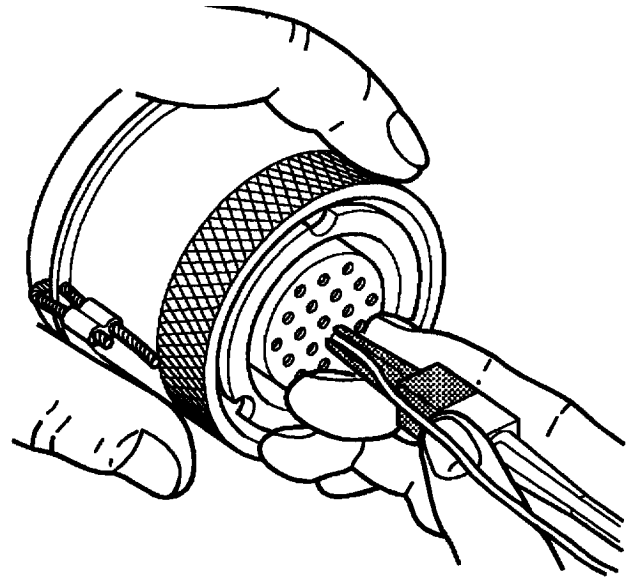
Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(721-3)02-SCAN

Figure 9. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 10.

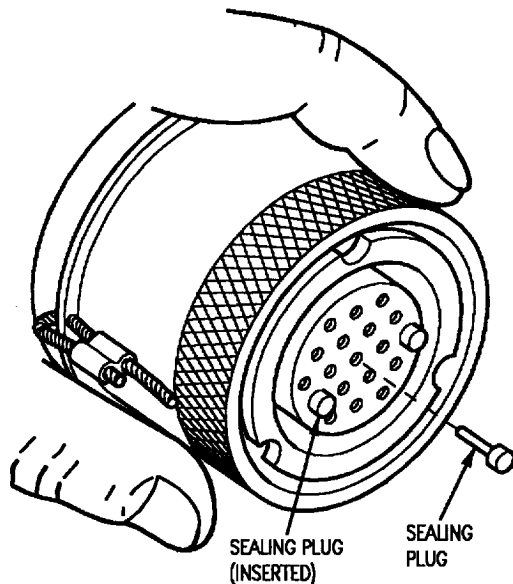


F/A-18-WRM-(730-1)01-CATI

Figure 10. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 11.



F/A-18-WRM-(730-2)01-CATI

Figure 11. Inserting Sealing Plug(s) into Connector

12. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

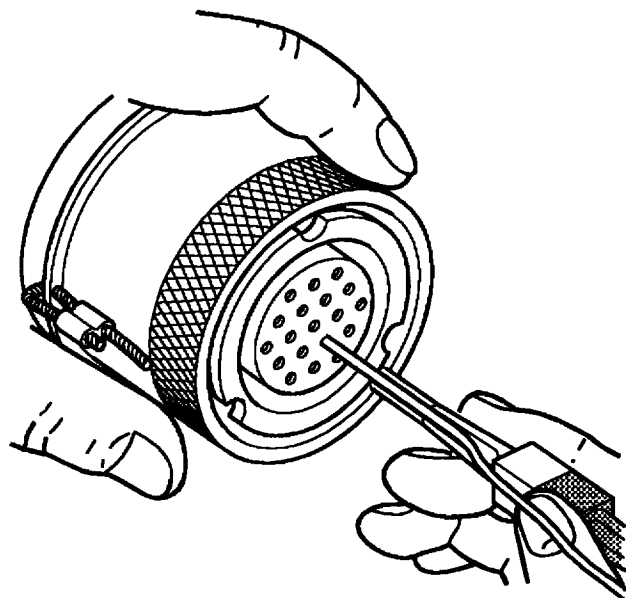


Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

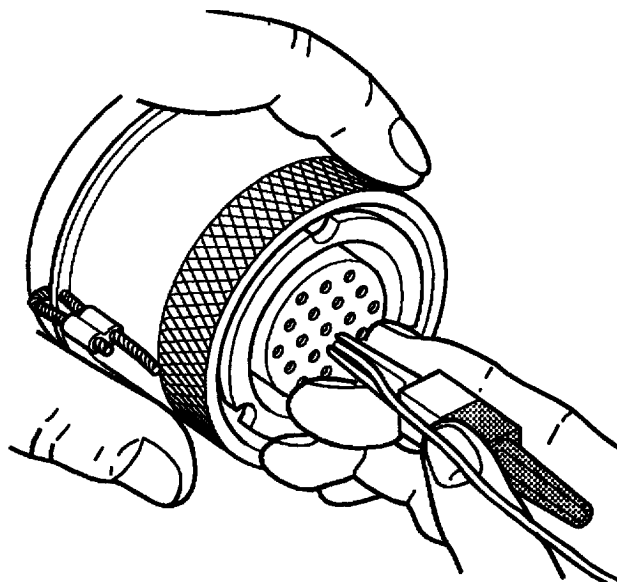
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 12.



F/A-18-WRM-(730-3)01-CATI

Figure 12. Removal Tool on Wire

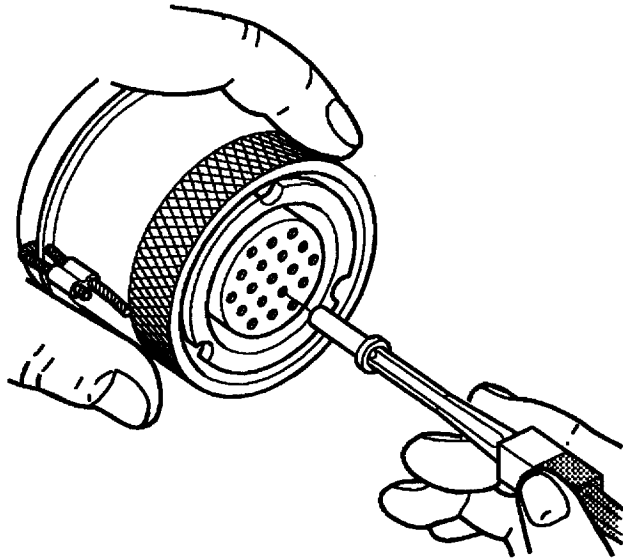
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 13.



F/A-18-WRM-(730-4)01-CATI

Figure 13. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 14.



F/A-18-WRM-(730-5)01-CATI

Figure 14. Removing Contact from Connector

13. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

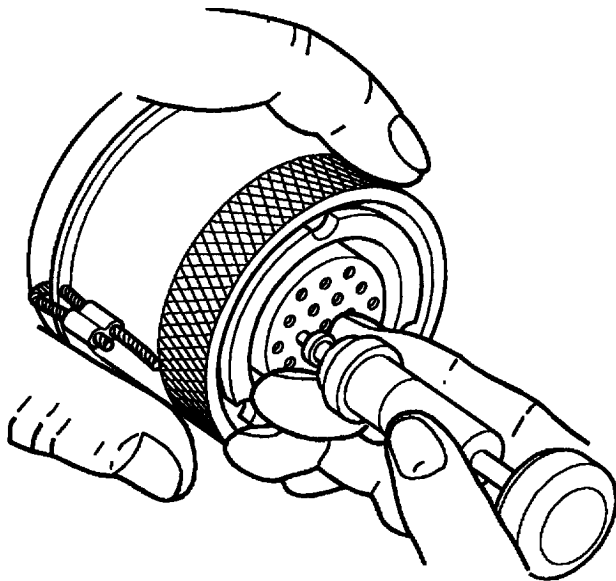
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

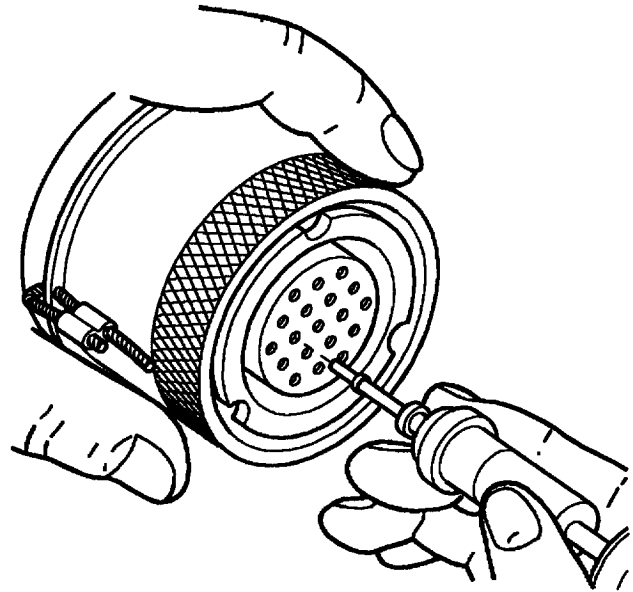
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 15.



F/A-18-WRM-(730-6)01-CATI

Figure 15. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 16.



F/A-18-WRM-(730-7)01-CATI

Figure 16. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

14. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

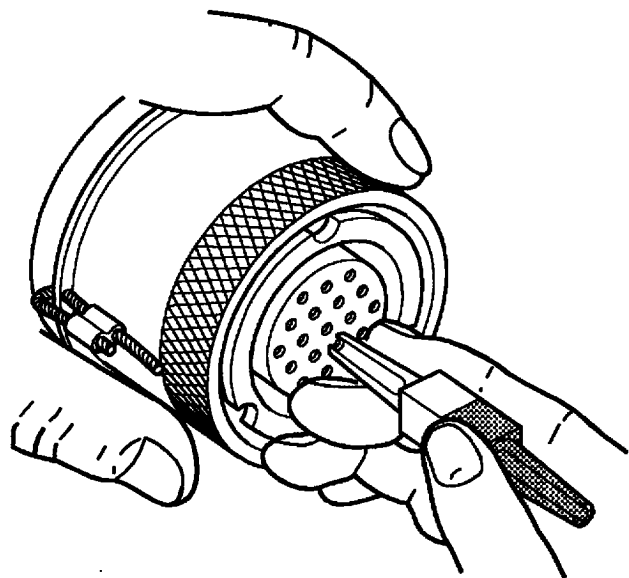
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.

CAUTION

Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in approximately 1/16-inch increments, releasing tool after each increment if resistance is felt.

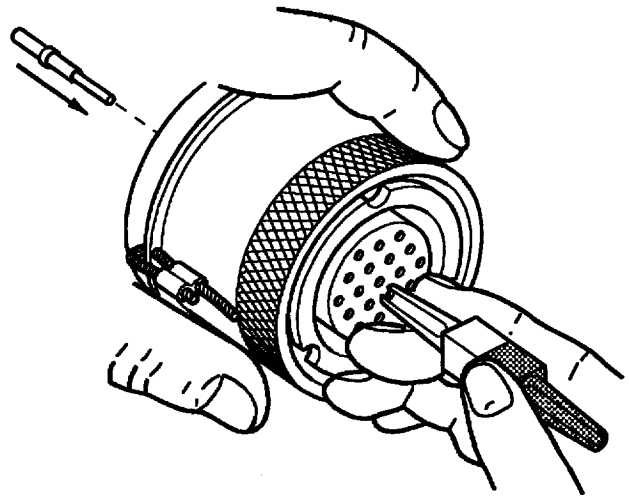
g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 17.



F/A-18-WRM-(730-8)01-CAT1

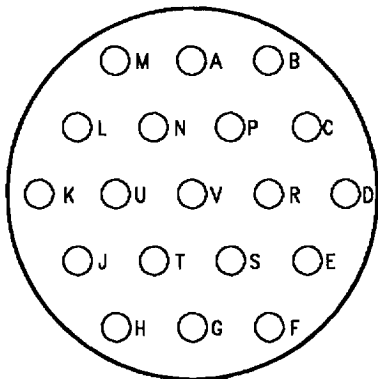
Figure 17. Unlocking Contact Retention Mechanism of Broken Wire Contact

- h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.
- i. Continue insert of removal tool until positive stop is felt.
- j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 18.



F/A-18-WRM-(730-9)01-CATI

Figure 18. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(814-19)01-CATI

Reference Designation to Backshell Data Index for 88-556119-70S Connector

REFERENCE DESIGNATION	BACKSHELL
61P-W098R	G7057-15NF

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Turret Head	M22520/1-02
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P and R THRU V	5/32	M39029/5-115	MS27488-20

Figure 19. 88-556119-70S Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****M81511 (MIL-C-81511 SERIES 4)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Protective Boot Installation for Environmental Type Connectors With	
Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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
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Record of Applicable Technical Directives

None

Reference Designation to Figure
Number IndexReference
Designation

Figure No.

33P-J015
 33P-L020
 74P-B001A
 74P-F002A
 74P-F002B

21
 21
 21
 21
 20

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

LEGEND

 F/A-18B

1. DESCRIPTION.

2. The M81511-56 family of connectors meet the requirements of MIL-C-81511 Series 4 and are of the rear insert and release crimp contact, 50 percent scoop proof design. The MIL-C-81511 connectors are high-density, multiple-conductor, environmental-resistant, circular connectors with bayonet couplings and can withstand temperatures from -65° to +200°C.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-81511 Series 4, connectors used on F/A-18 aircraft.

Support Equipment Required

Materials Required

Part Number or
Type Designation

Nomenclature

Specification
or Part Number

Nomenclature

TT-I-735 Grade B

Isopropyl Alcohol

3308AS100

Repair Set-Wire and
Connector

M81511/56WD01S1

BASIC MILITARY PART NO.

SHELL STYLE: SPECIFICATION SLASH NO.

SERIES IV - SHORT SHELL SERIES (50% SCOOP PROOF)
/56 PLUG

CLASS

1 W-175°C GROMMET SEAL, FLUID
RESISTANT, CADMIUM PLATED

SHELL SIZE

(USE LETTER DESIGNATION)

8	10	14	16	18	20	22	24
A	B	D	E	F	G	H	J

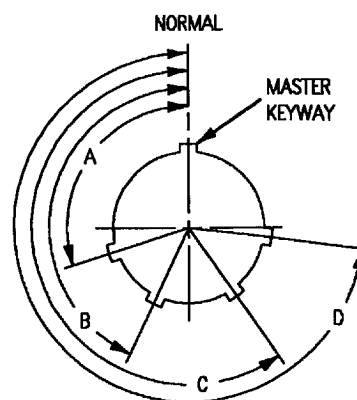
INSERT ARRANGEMENTS

CONTACT STYLE

P-PIN
S-SOCKET

ALTERNATE KEYING POSITIONS

POSITION 1 - NORMAL



FRONT FACE OF RECEPTACLE SHOWN

LEGEND

1 CLASS F, ELECTROLESS NICKEL PLATED IS
SUPERSEDED BY CLASS W, CADMIUM PLATED.

F/A-18-WRM-(200-5)02-CAT I

Figure 1. Military Part Numbering System for MIL-C-81511, Series 4, Connector

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

NOTE

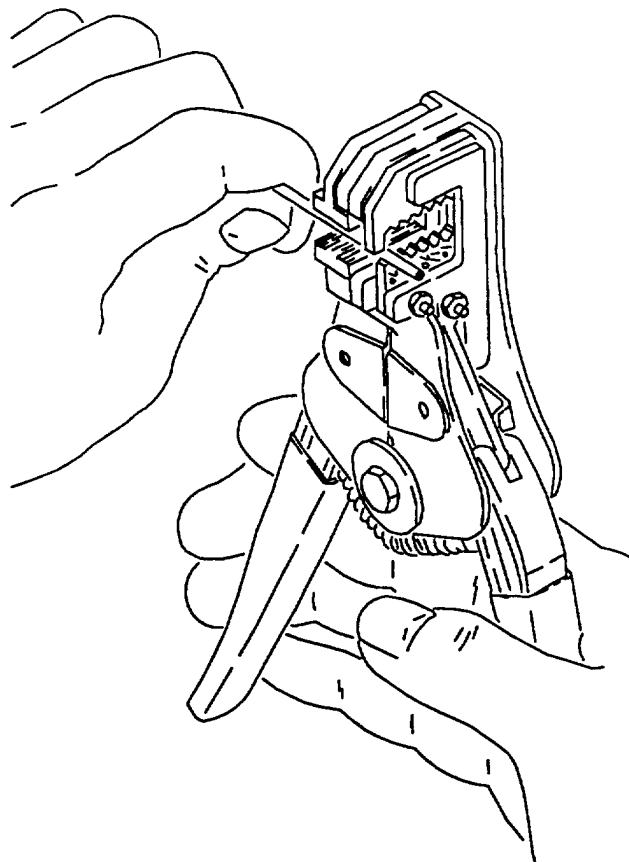
Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

NOTE

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

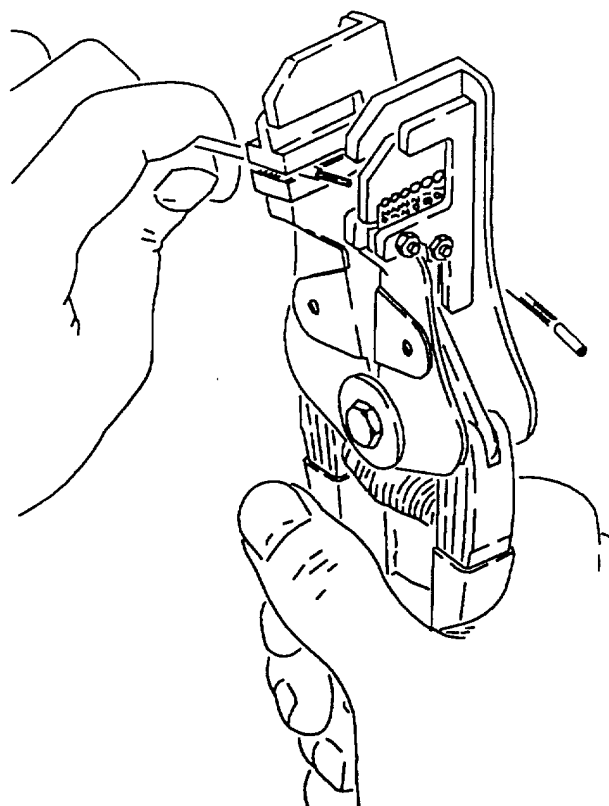
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

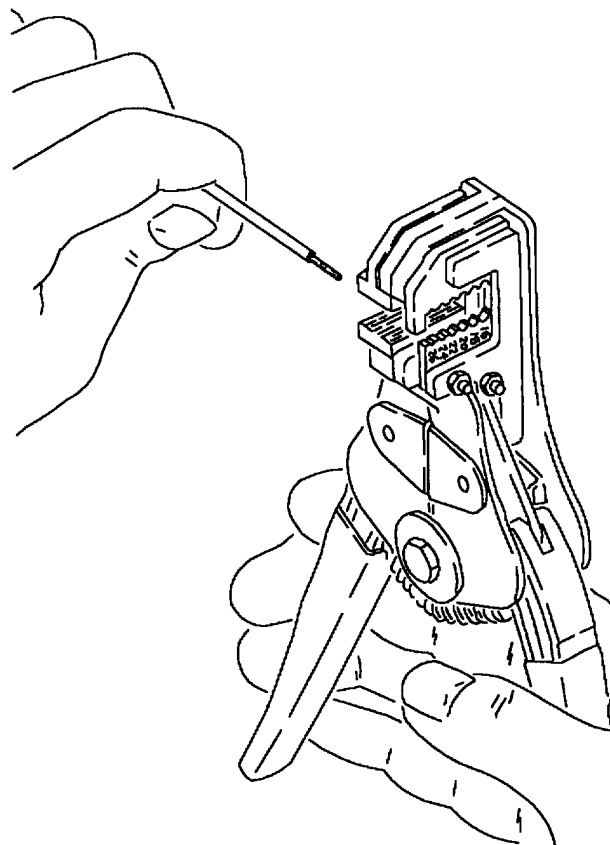
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

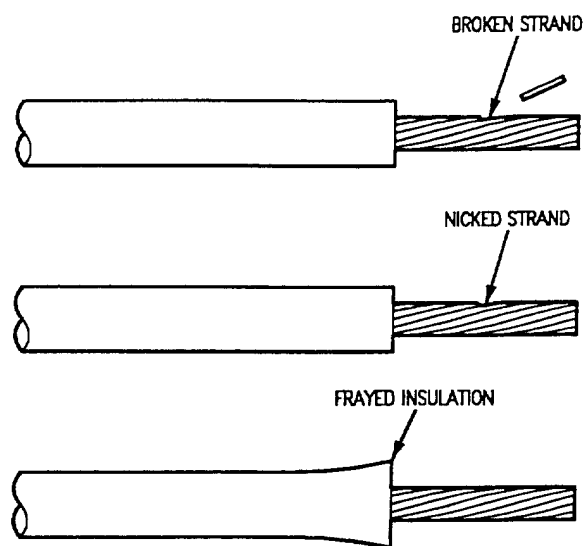


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF POSITIONER.

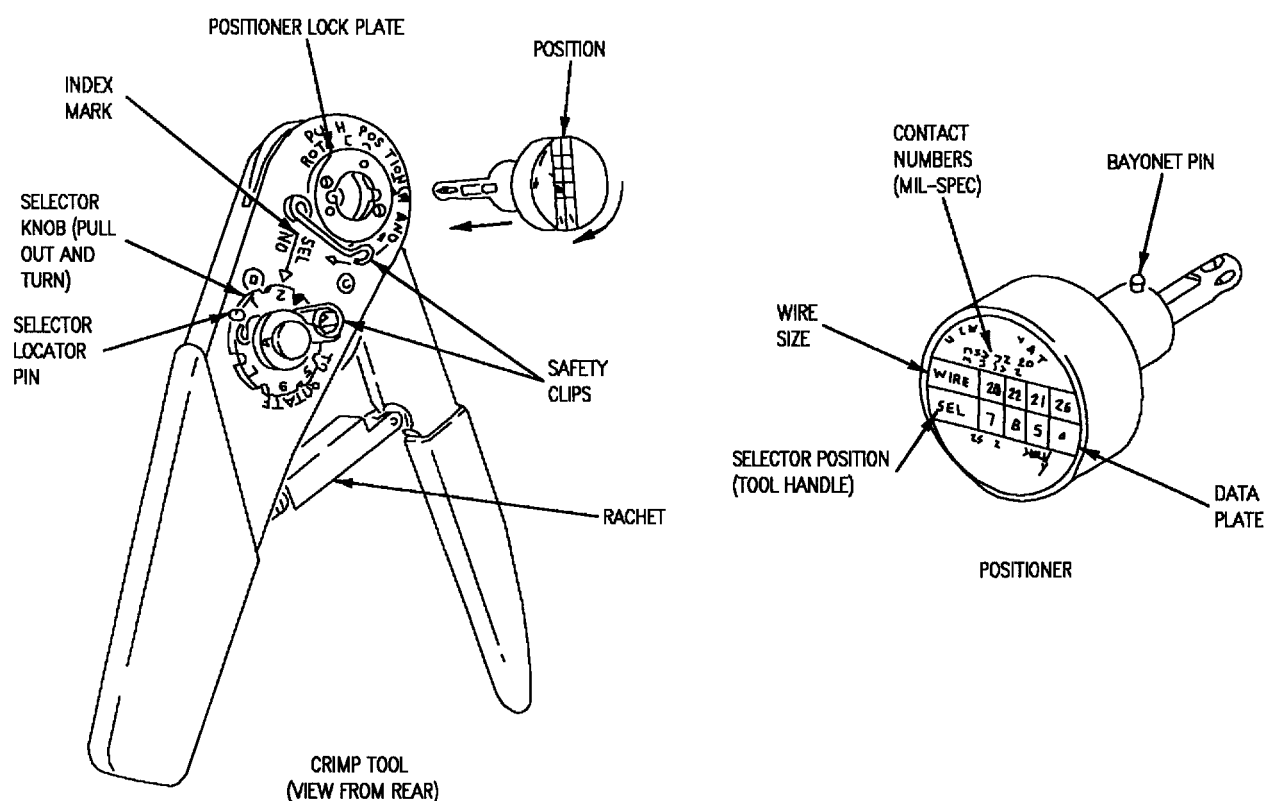
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 6.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 6. M22520/2-01 Crimp Tool Handle and Positioner

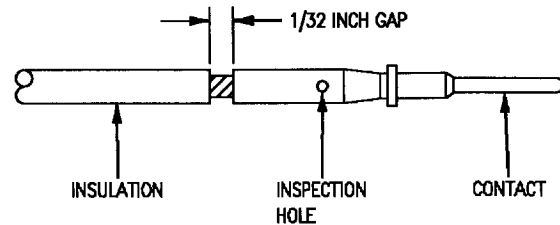
10. SETTING SELECTOR KNOB.

- a. Locate wire size on data plate of positioner and note corresponding selector number.
- b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- c. Install safety clip.

11. CONTACT CRIMPING.

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 7.



F/A-18-WRM-(721-14)02-CATI

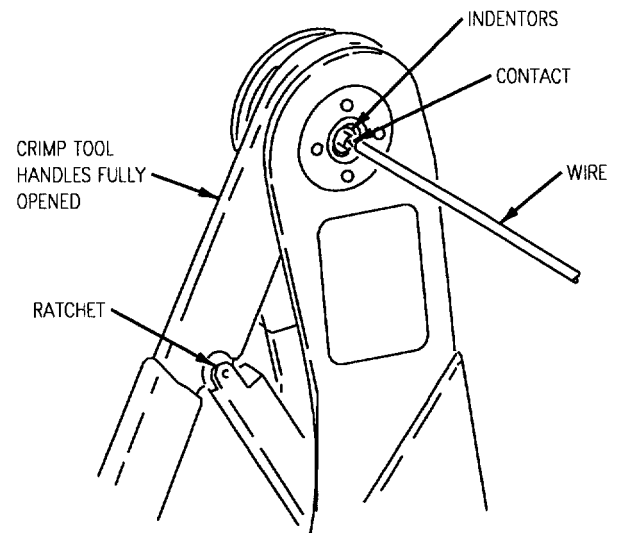
Figure 7. Strip Gap Check

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 8, detail A.

NOTE

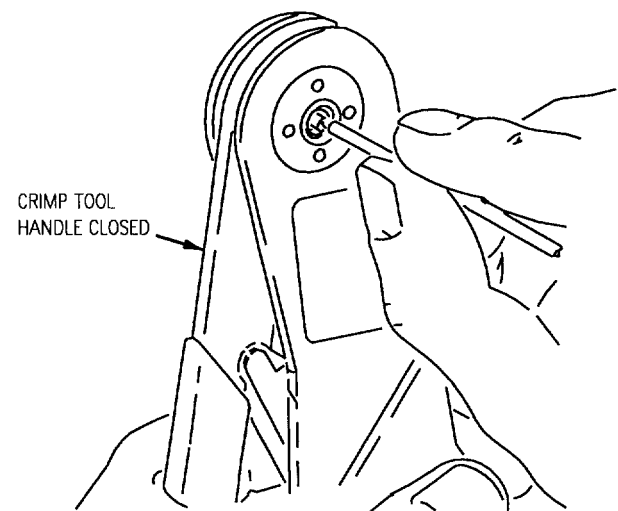
Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet release and tool opens. See figure 8, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

Figure 8. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole figure 9.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.

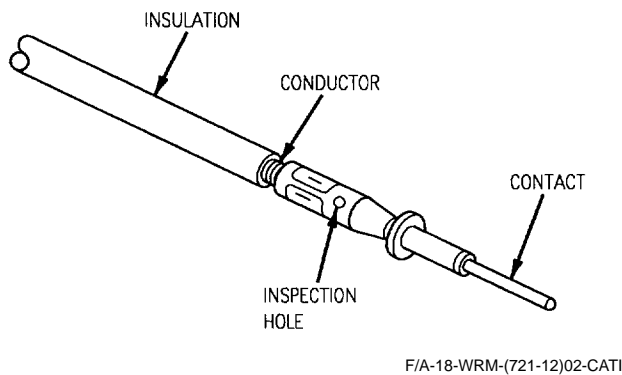


Figure 9. Inspection of Crimped Contact

12. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

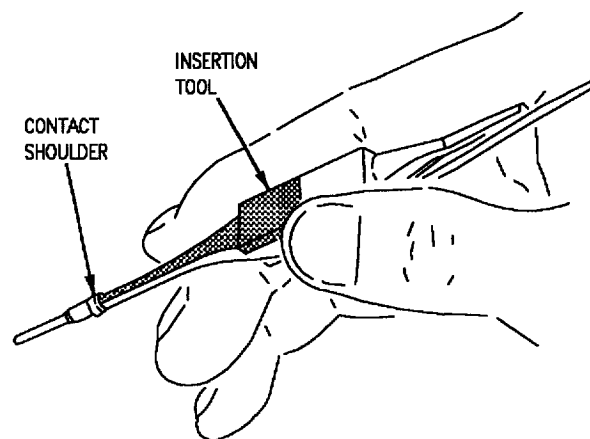
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 10.



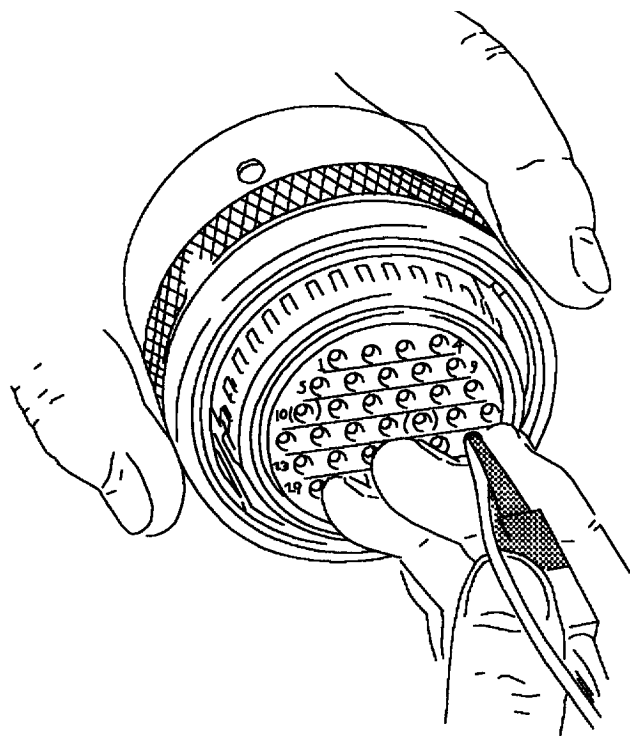
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(723-5)02-SCAN

Figure 10. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 11.

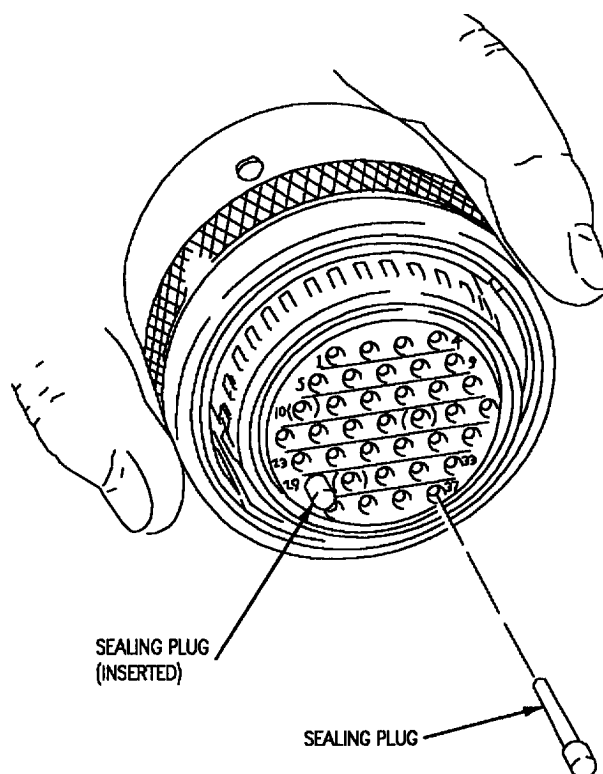


F/A-18-WRM-(421-1)02-SCAN

Figure 11. Inserting Contacts into Connector

f. Remove insertion tool by pulling it out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 12.



F/A-18-WRM-(421-2)02-SCAN

Figure 12. Inserting Sealing Plug(s) into Connector

13. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

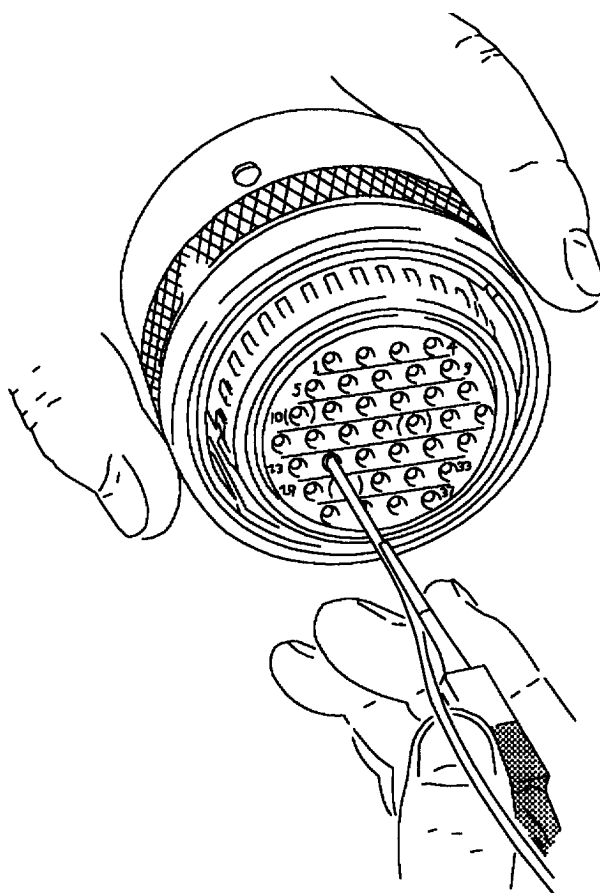


Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

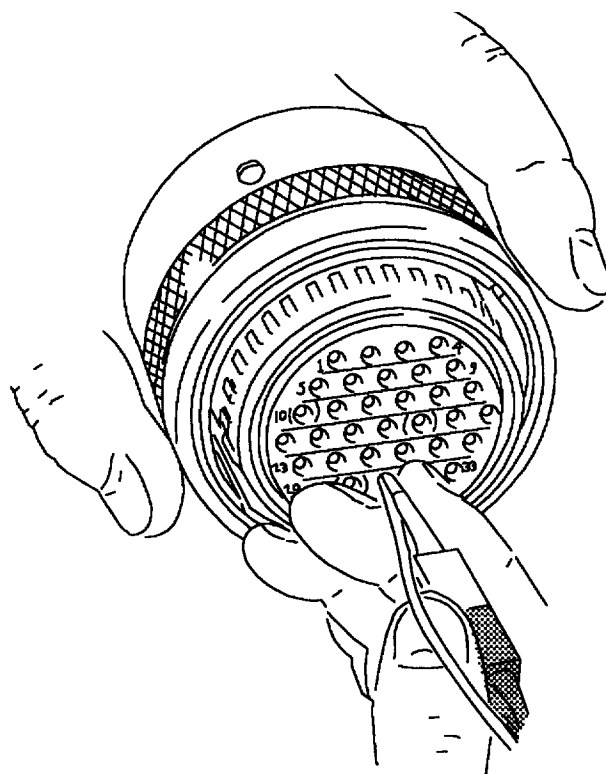
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 13.



F/A-18-WRM-(421-3)02-SCAN

Figure 13. Removal Tool on Wire

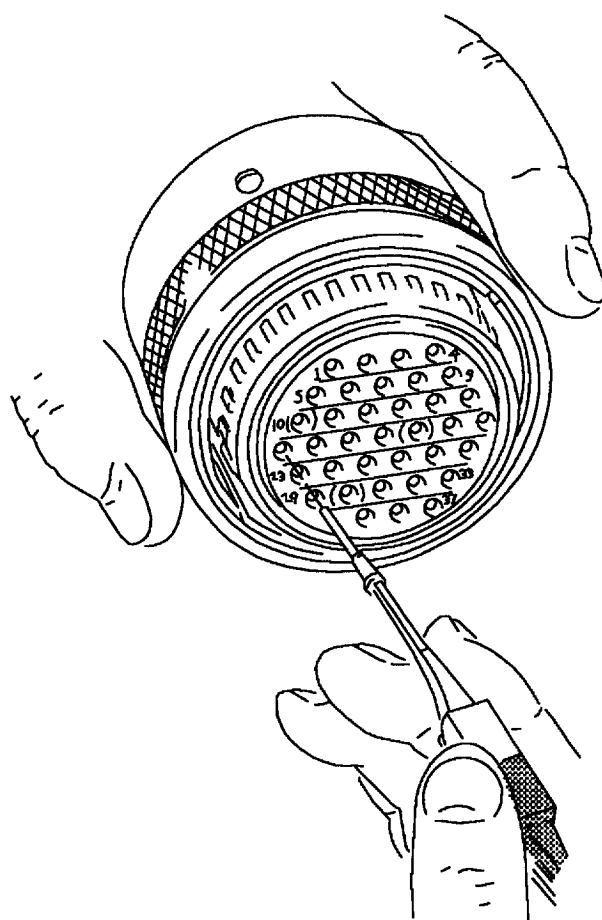
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 14.



F/A-18-WRM-(421-4)02-SCAN

Figure 14. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 15.



F/A-18-WRM-(421-5)02-SCAN

Figure 15. Removing Contact from Connector

14. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

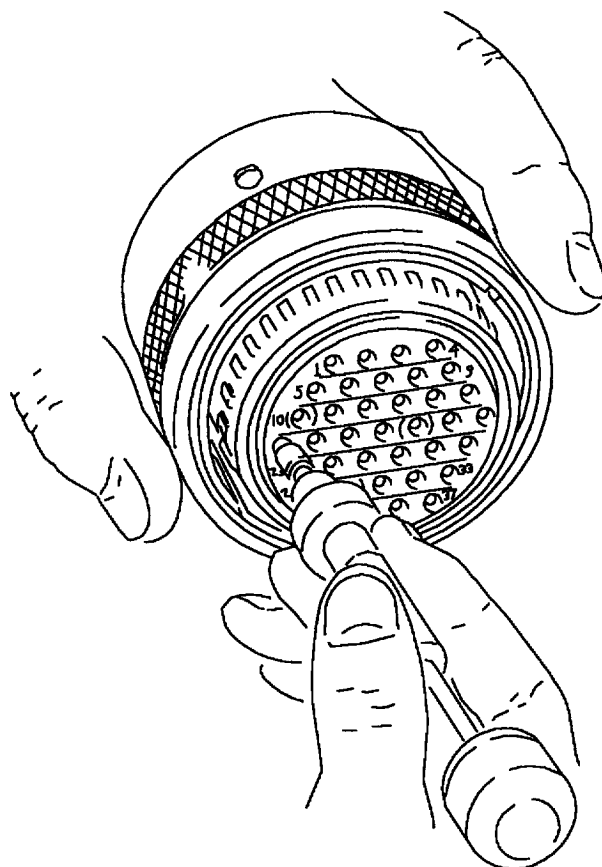
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.



Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

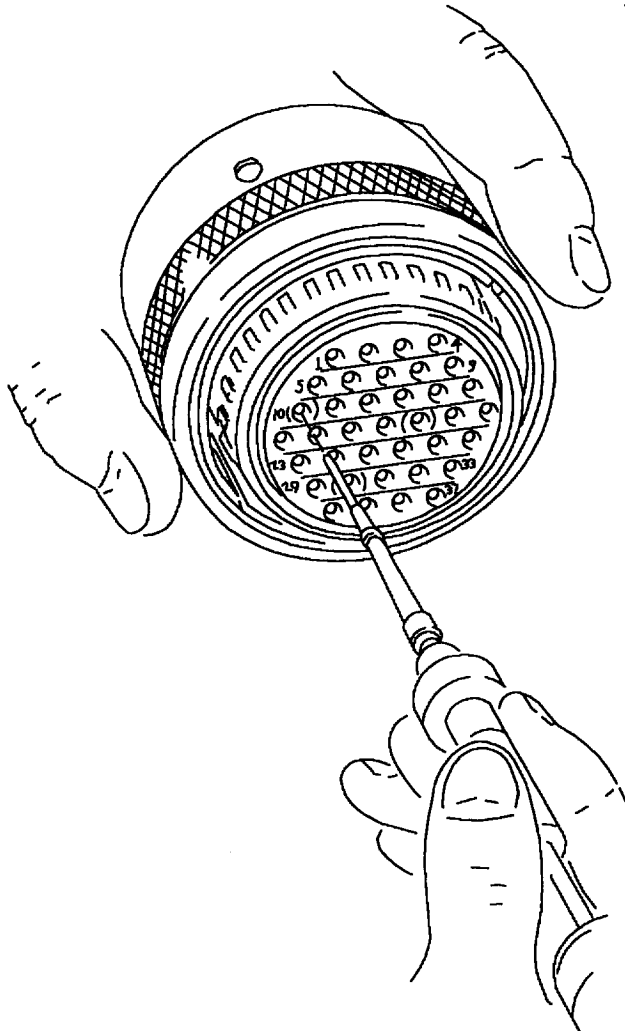
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 16.



F/A-18-WRM-(421-6)02-SCAN

Figure 16. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 17.



F/A-18-WRM-(421-7)02-SCAN

Figure 17. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

15. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

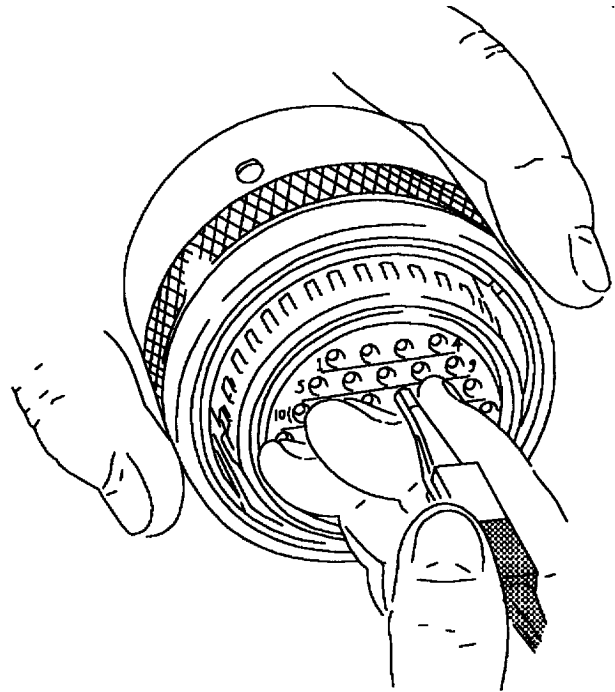
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 18.



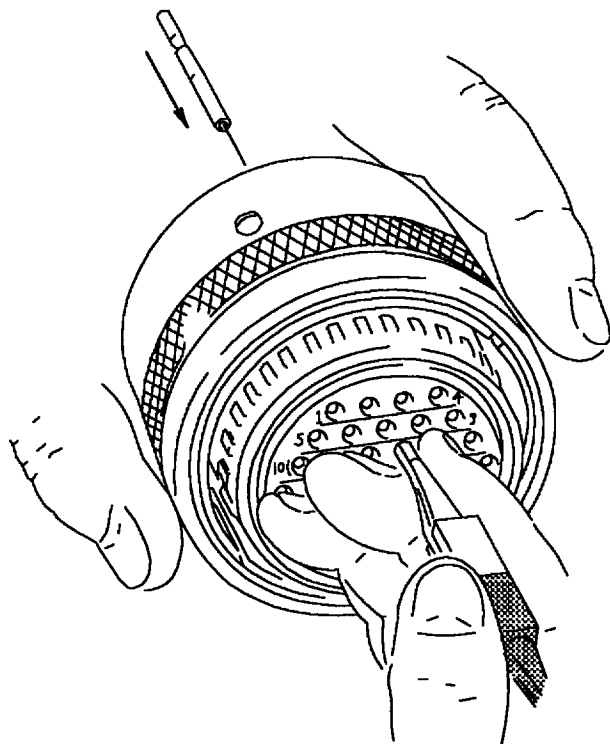
F/A-18-WRM-(421-8)02-SCAN

Figure 18. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

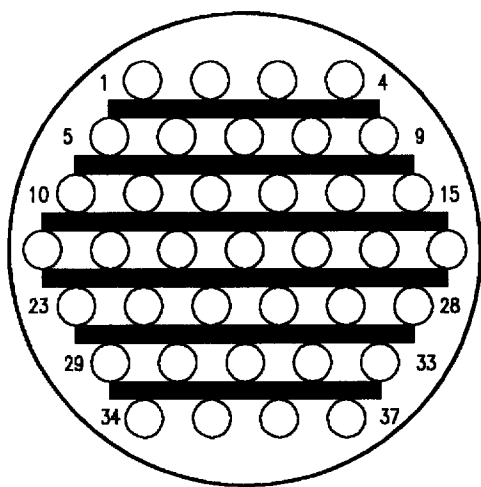
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 19.



F/A-18-WRM-(421-9)02-SCAN

**Figure 19. Broken Wire Contact
Removal**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(915-37A)01-CATI

Reference Designation to Backshell Data Index for M81511-56WD01P1 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
74P-F002B	M81511-13-14A1	080 00

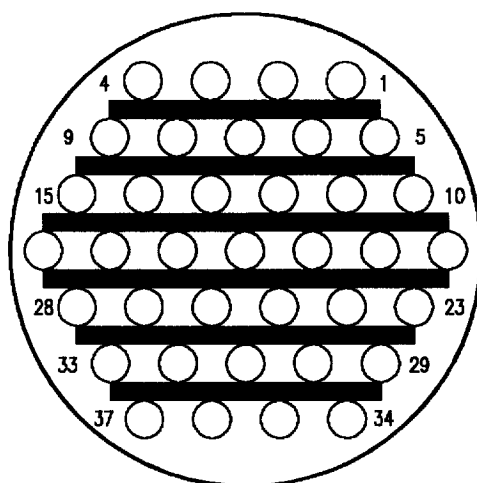
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-13
Insertion Tool (Green)	M81969/16-04
Removal Tool (White)	M81969/16-04
Removal Tool (Unwired)	DRK130-22

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	3/16	M39029/18-177	MS27488-22

Figure 20. M81511-56WD01P1 Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-37A)01-CATI

Reference Designation to Backshell Data Index for M81511-56WD01S1 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 33P-J015	M81511-13-14A1	080 00
2 33P-J015	GTR23-14B	080 00
74P-B001A	GTR23-14B	080 00
3 33P-L020	GTR23-14B	080 00
1 161353 THRU 161359.		
2 161360 THRU 163175.		
3 F/A-18B		

Reference Designation to Backshell Data Index for M81511-56WD01S3 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
74P-F002A	GTR23-14B	080 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-13
Insertion Tool (Green)	M81969/16-04
Removal Tool (White)	M81969/16-04
Removal Tool (Unwired)	DAK130-22

Figure 21. M81511-56WD01S1 and M81511-56WD01S3 Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	3/16	M39029/16-167	M81511/39-22

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****D38999 (MIL-C-38999 SERIES 3)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Protective Boot Installation for Environmental Type Connectors with	
Molded Plastic Cable Clamps	WP070 00
Protective Boot Installation for Environmental Type Connectors With	
Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

Reference Designation to
Figure Number Index

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5 1P-D155	36
2 2J-P015	27 (WP190 00)
6 2J-P015	29
2 22J-S027	33 (WP190 00)
1 22J-S027	21
2 22J-S030	24 (WP190 00)
1 22J-S030	25
2 22P-P030	23 (WP190 00)
1 22P-P030	26
2 22P-S027	32 (WP190 00)
1 22P-S027	22
2 24P-M002	22 (WP190 00)
1 24P-M002	34
2 24P-N006	22 (WP190 00)
1 24P-N006	34
2 24P-N021	22 (WP190 00)
1 24P-N021	34
2 24P-P003	22 (WP190 00)
1 24P-P003	34
2 24P-P005	22 (WP190 00)
1 24P-P005	34
2 24P-P007	22 (WP190 00)
1 24P-P007	34
2 24P-R004	22 (WP190 00)
1 24P-R004	34
2 24P-S009	22 (WP190 00)
1 24P-S009	34
2 24P-T008	22 (WP190 00)
1 24P-T008	34
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1 24P-T010	34
2 4P-P009	22 (WP190 00)
1 4P-P009	34
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2 4P-R022	22 (WP190 00)
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2 4P-S011	22 (WP190 00)
1 4P-S011	34
2 4P-S013	22 (WP190 00)
1 4P-S013	34
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1 4P-S014	34
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1 4P-T017	34
2 4P-T019	22 (WP190 00)
1 4P-T019	34
2 4P-T020	22 (WP190 00)
1 4P-T020	34
2 52J-P103	29 (WP190 00)
1 52J-P103	31
2 52J-P105	29 (WP190 00)
1 52J-P105	31
2 52J-P112	29 (WP190 00)
1 52J-P112	31
2 52J-P125	26 (WP190 00)
1 52J-P125	27
2 52J-R102	31 (WP190 00)
1 52J-R102	33
2 52J-R104	28 (WP190 00)
1 52J-R104	30
2 52J-R124	21 (WP190 00)
1 52J-R124	23
2 52J-T108	28 (WP190 00)
1 52J-T108	30
2 52P-P103	28 (WP190 00)
1 52P-P103	30
2 52P-P105	28 (WP190 00)
1 52P-P105	30
2 52P-P125	25 (WP190 00)
1 52P-P125	28
2 52P-R102	30 (WP190 00)
1 52P-R102	32
2 52P-R104	29 (WP190 00)
1 52P-R104	31
2 52P-R124	20 (WP190 00)
1 52P-R124	24
2 52P-S112	28 (WP190 00)
1 52P-S112	30
2 52P-T108	29 (WP190 00)
1 52P-T108	31
76P-F001B	35
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3 77P-K001B	35
4 77P-L001B	35

LEGEND

1	161924 AND UP.
2	161353 THRU 161761.
3	F/A-18B
4	F/A-18A
5	163119 AND UP.
6	F/A-18A 161925 AND UP; F/A-18B 161924 THRU 161947, 162836 AND UP

1. DESCRIPTION.

2. The MIL-C-38999, Series 3, electrical connectors are triple start, self locking, threaded coupling, circular environment resistant type electrical connectors. The Series 3 connector has a scoop-proof design. These connectors provide electrical continuity between mated shells before contact engagement and have the contacts located to be protected from handling damage and inadvertent electrical contact.

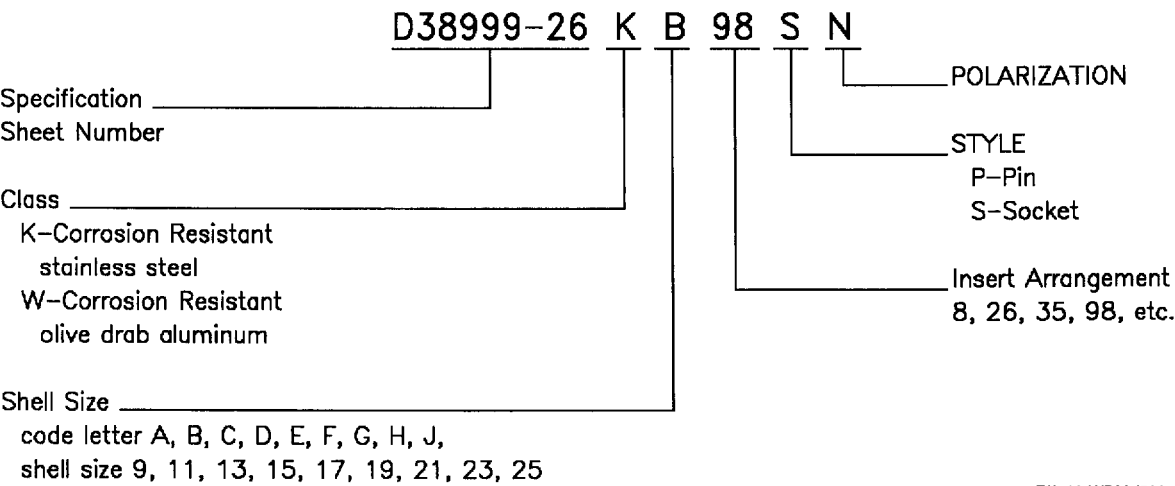
3. Each connector part number is supported by an illustration which represents the contact arrangement, a

reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-38999, Series 3, connectors used on F/A-18 aircraft.



F/A-18-WRM-(500-12)01-CATI

Figure 1. Military Part Numbering System for MIL-C-38999, Series 3, Connectors

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

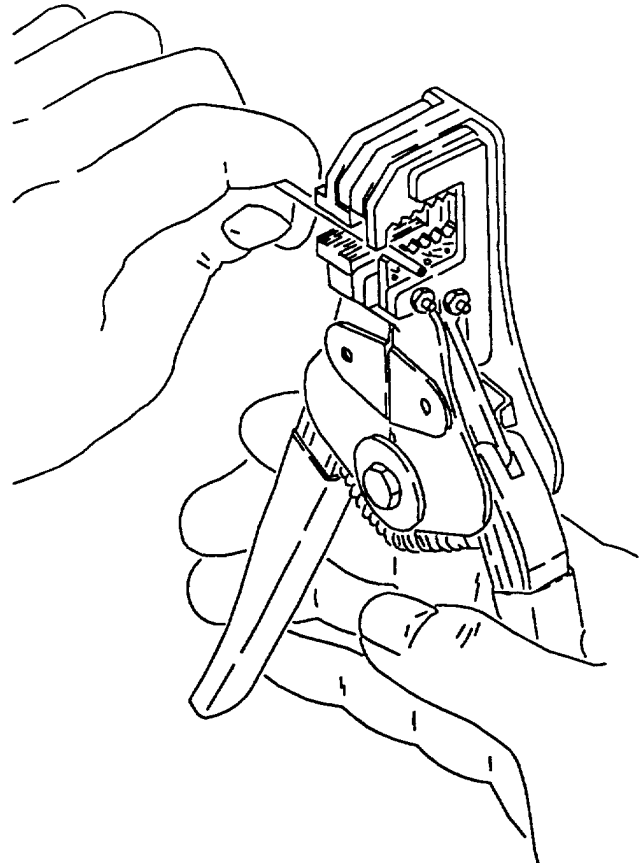
NOTE

The wire types of the wire are determined using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

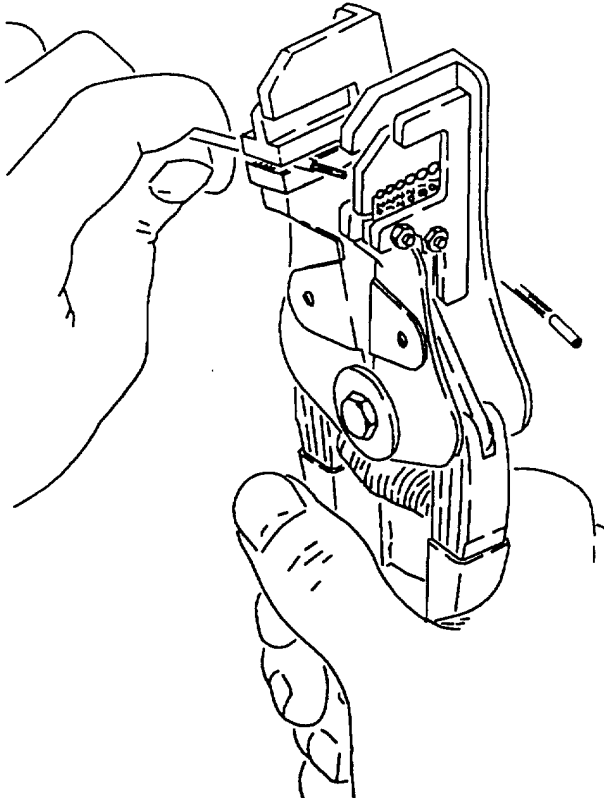
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

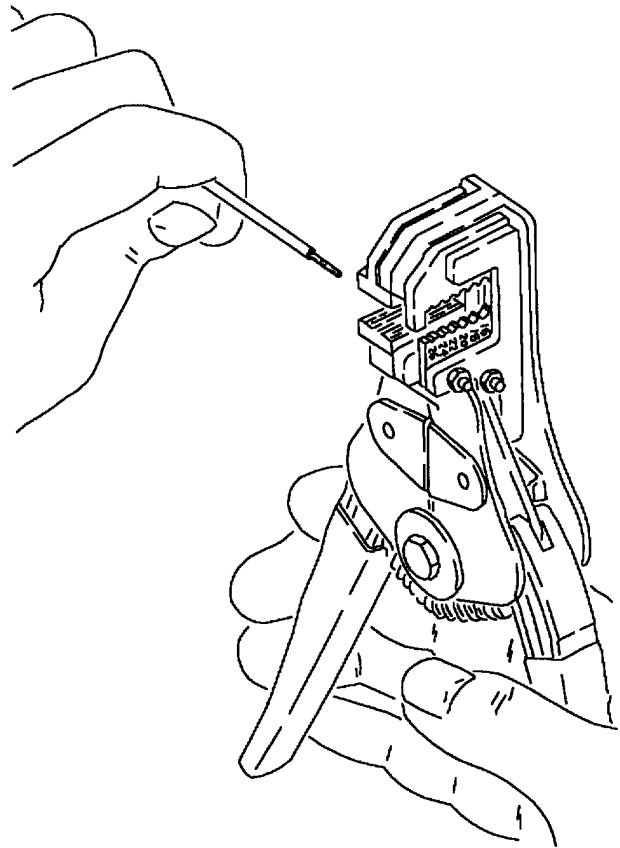
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

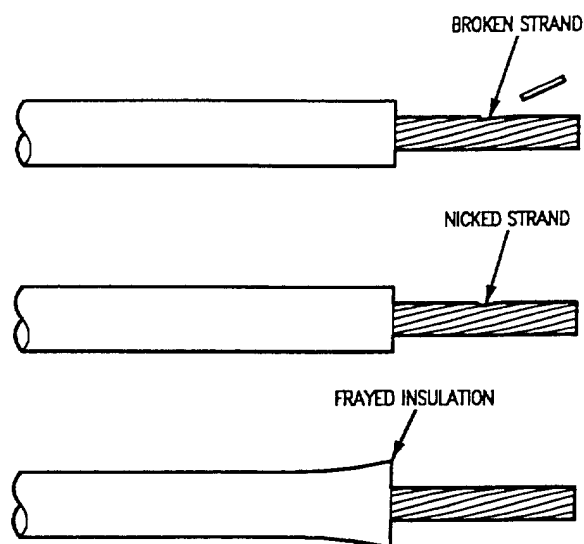


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

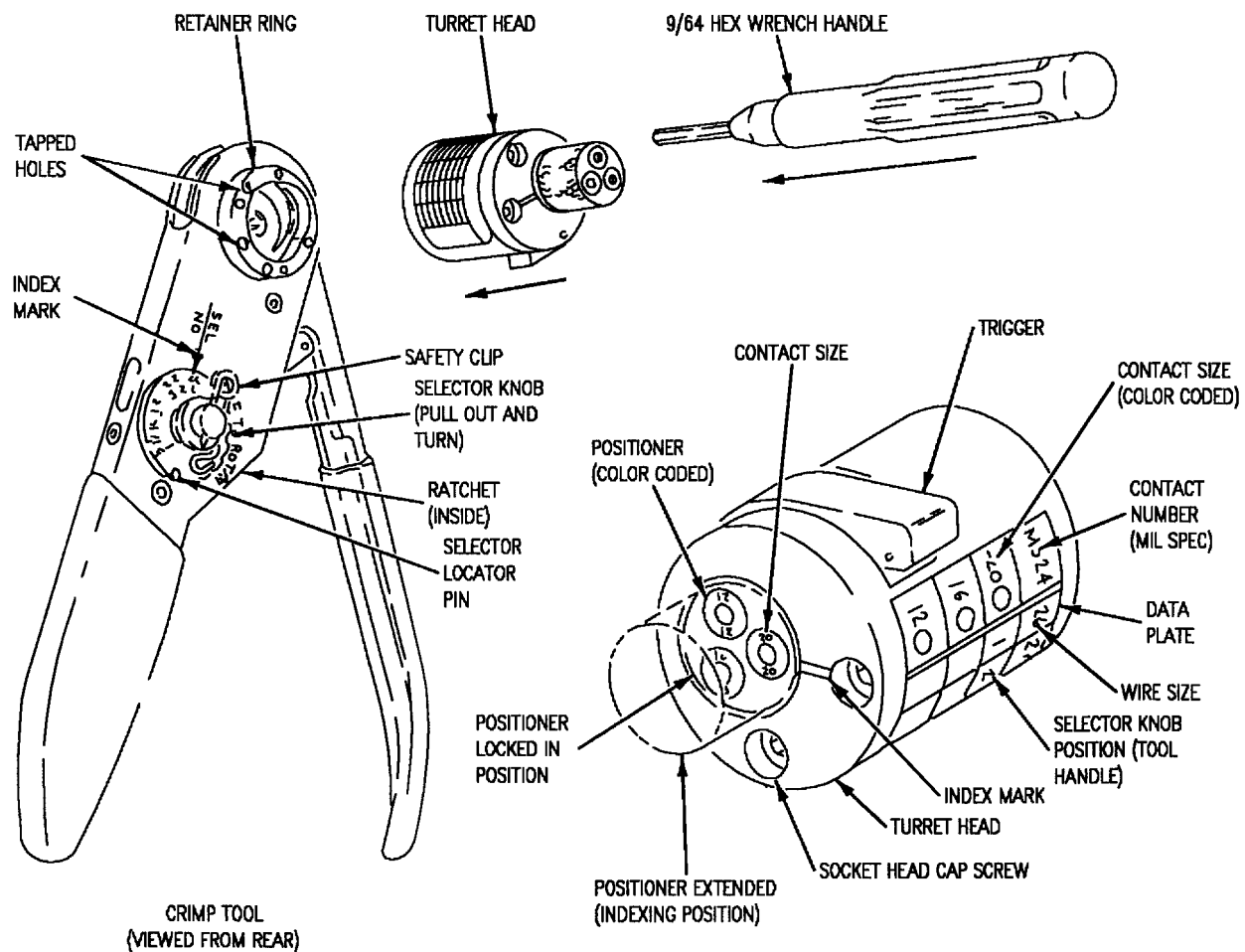
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes, open handles completely and lift off crimp tool.



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Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

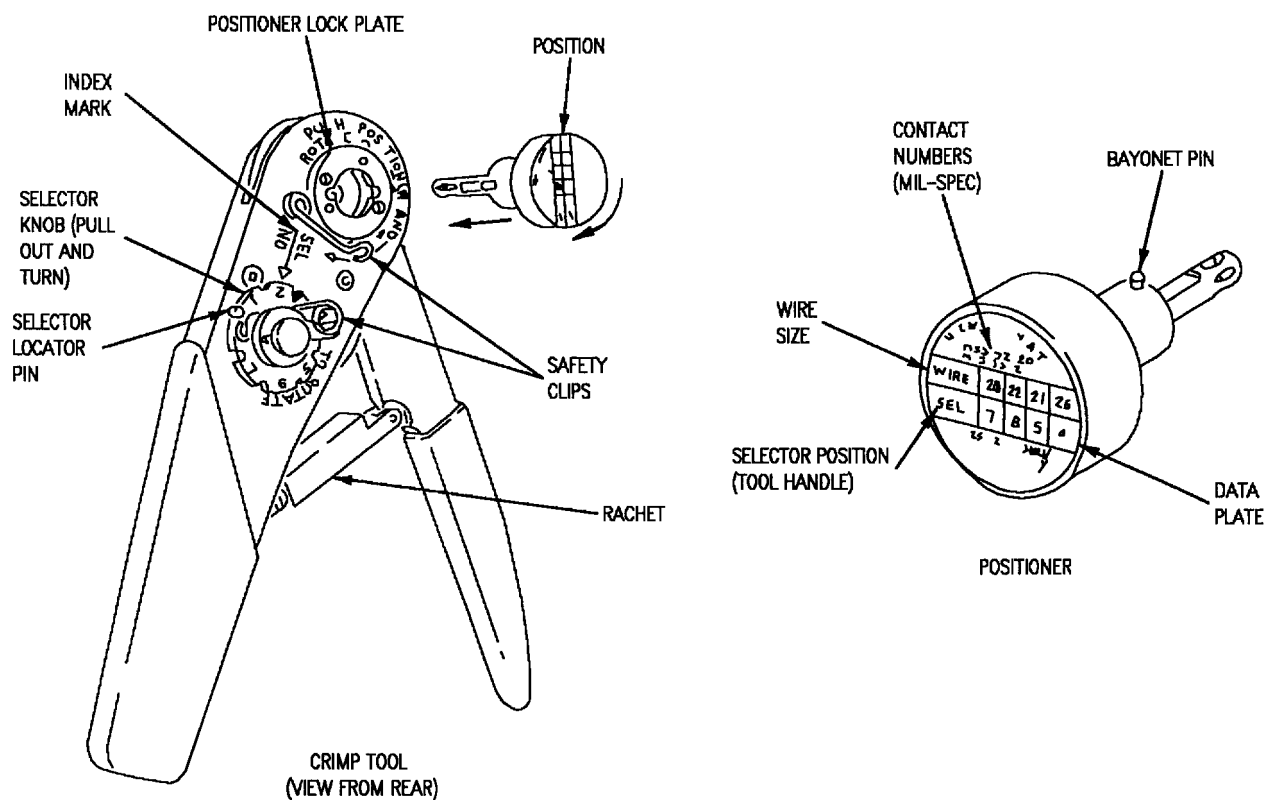
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until straight out of lock plate.



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Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

c. Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Select correct contact specified in table 2 for affected connector part number.

b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.

c. Visually inspect gap dimension between contact and insulation as shown in figure 8.

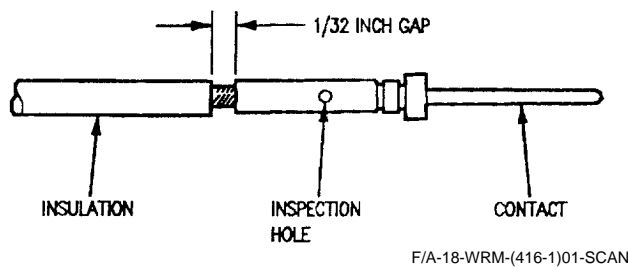


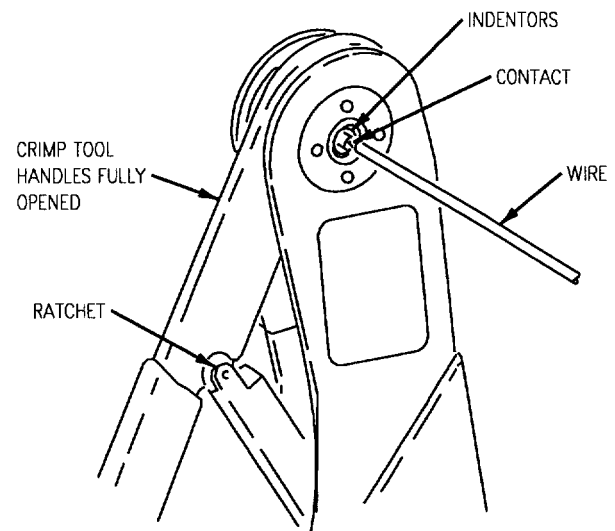
Figure 8. Strip Gap Check

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

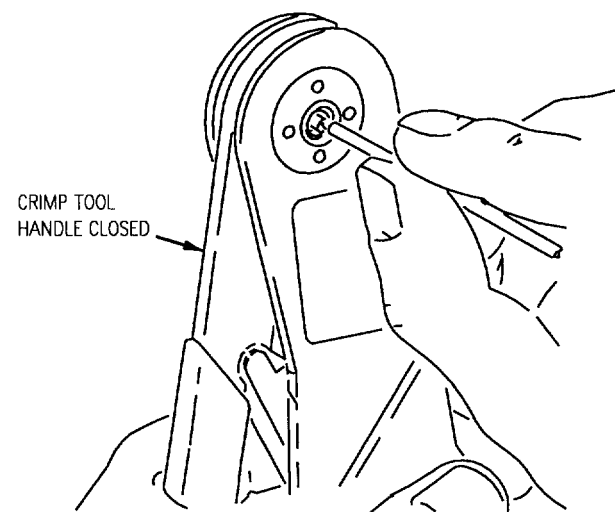
NOTE

Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-SCAN

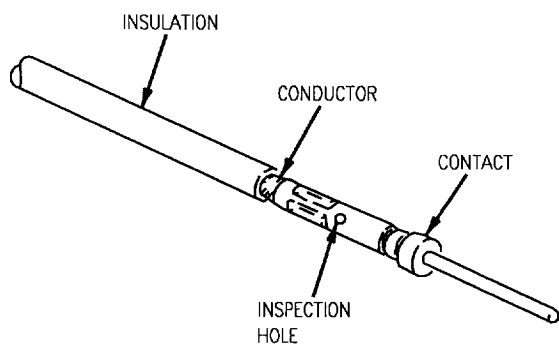
Figure 9. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(W168-1)01-CATI

Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

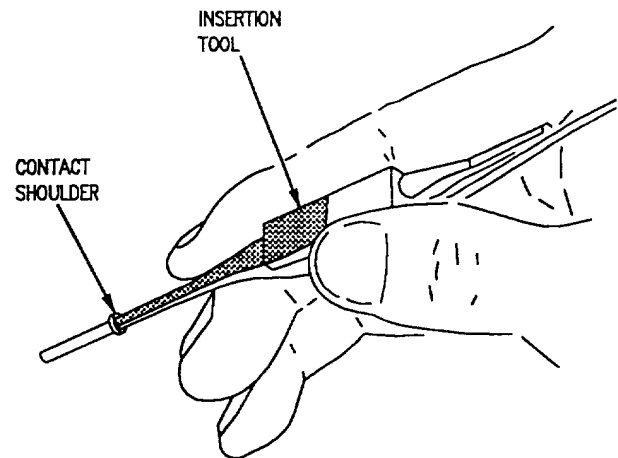
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp to butt contact shoulder. See figure 11.



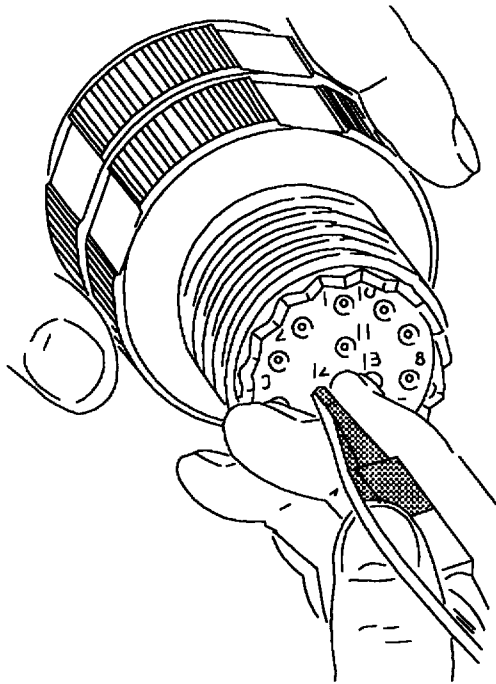
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention times snap into place behind contact shoulder. See figure 12.

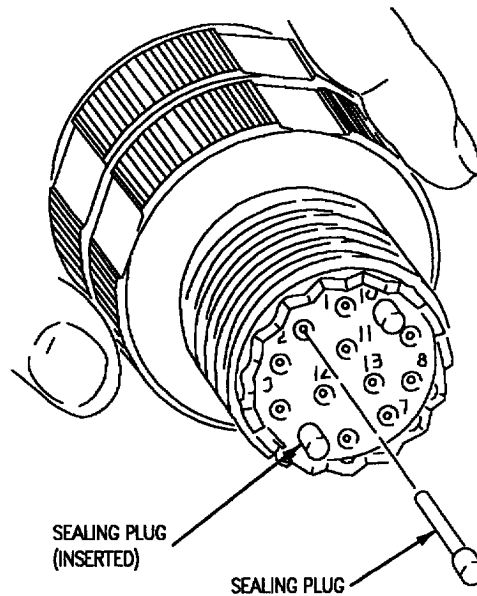


F/A-18-WRM-(533-1)02-SCAN

Figure 12. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.



F/A-18-WRM-(533-2)02-SCAN

Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

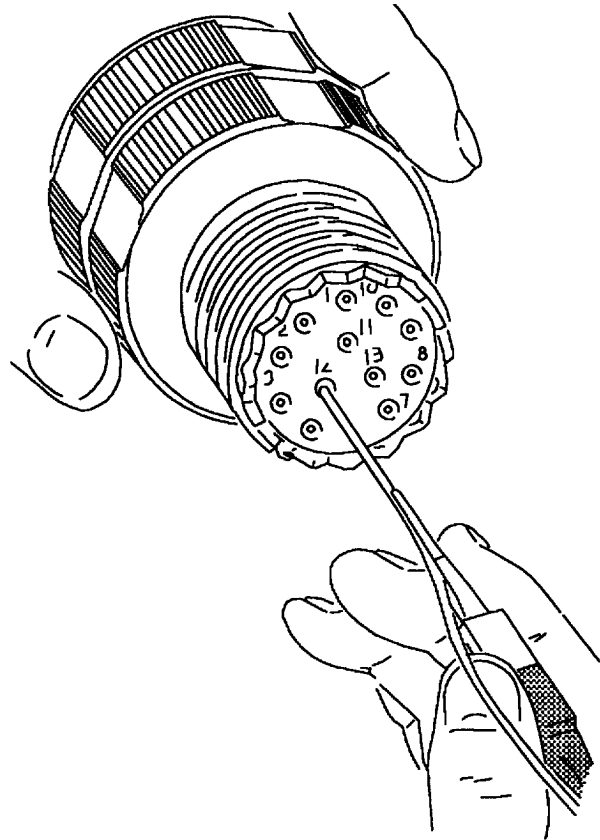
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

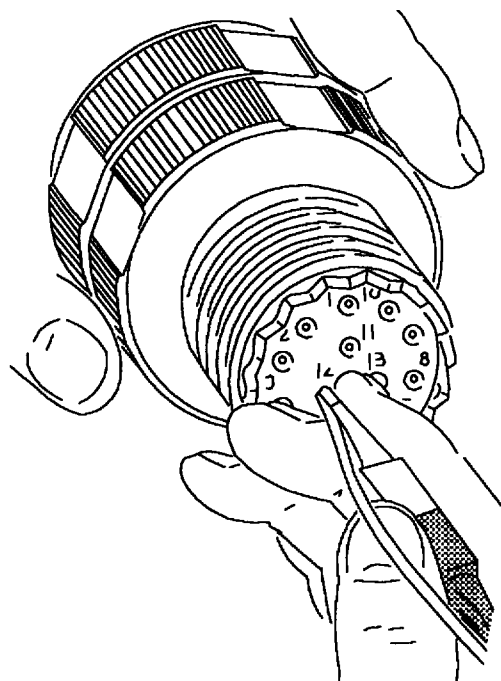
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.



F/A-18-WRM-(533-3)02-SCAN

Figure 14. Removal Tool on Wire

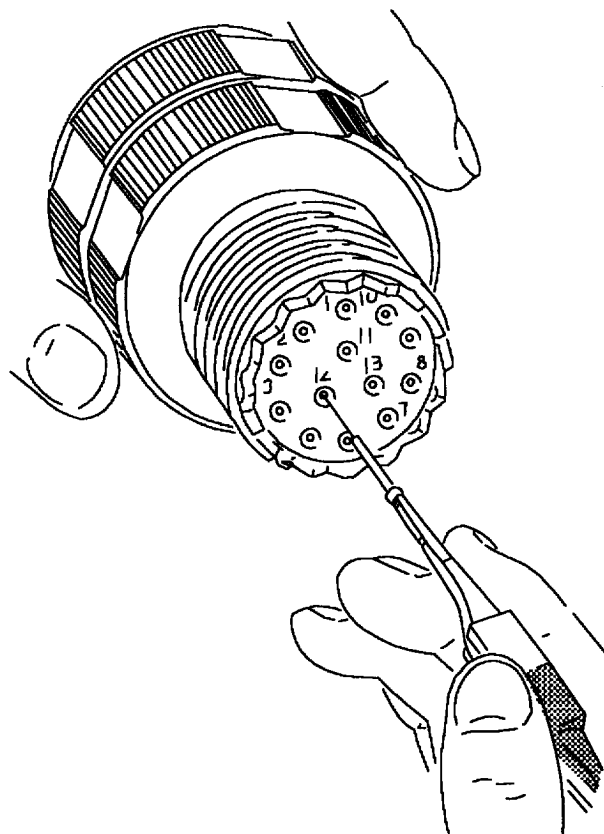
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.



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Figure 15. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



F/A-18-WRM-(533-5)02-SCAN

Figure 16. Removing Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

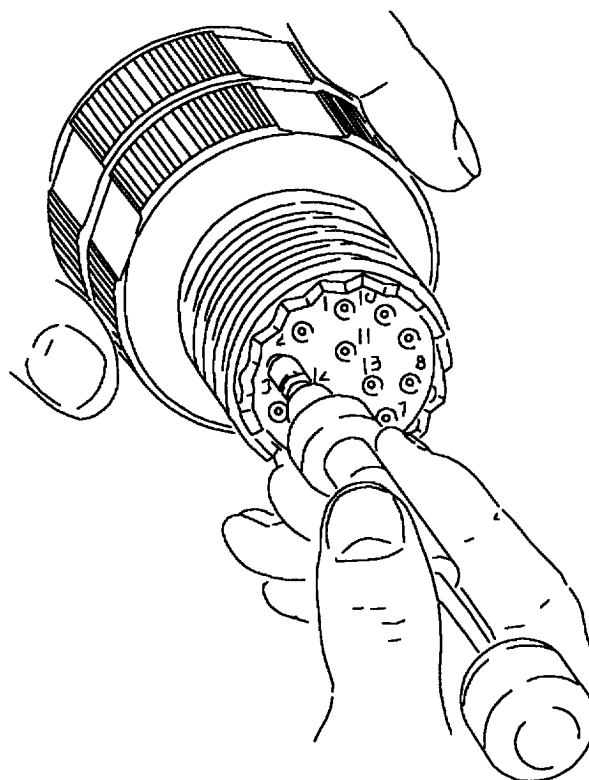
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

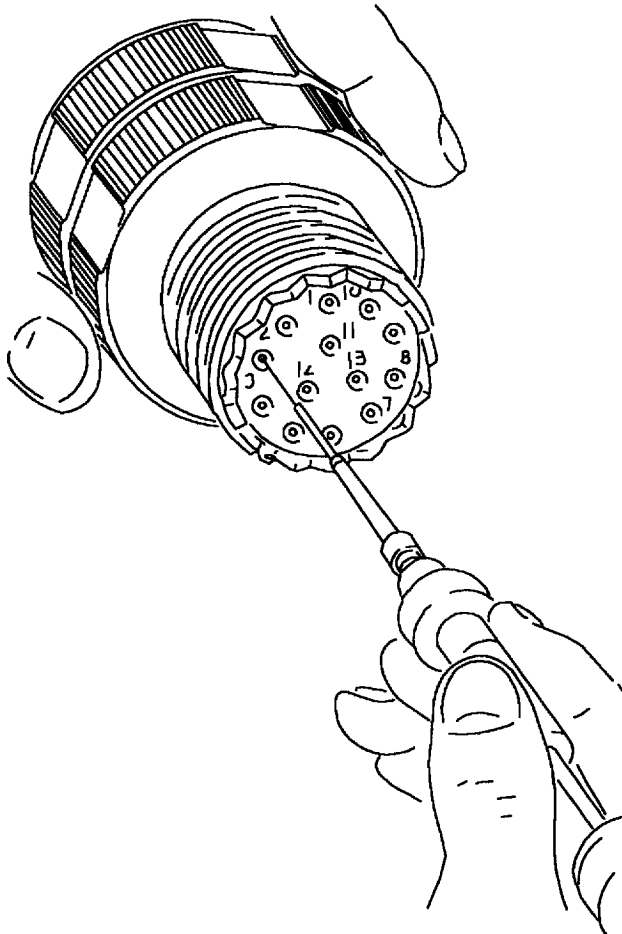
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 17.



F/A-18-WRM-(533-6)02-SCAN

Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



F/A-18-WRM-(533-7)02-SCAN

Figure 18. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

19. BROKEN WIRE CONTACT FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1- F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

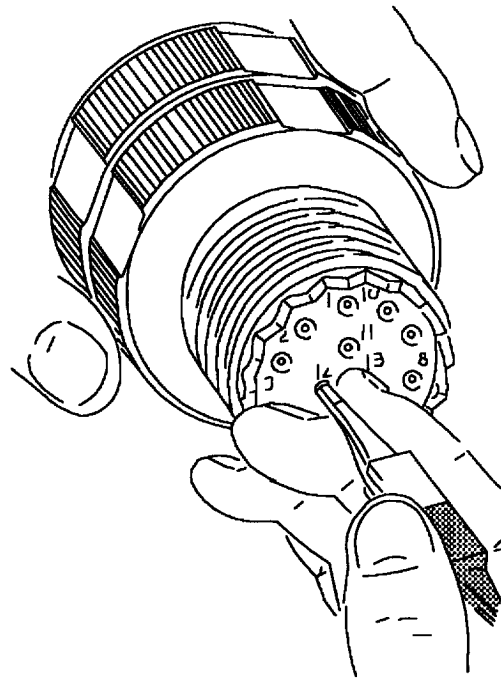
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



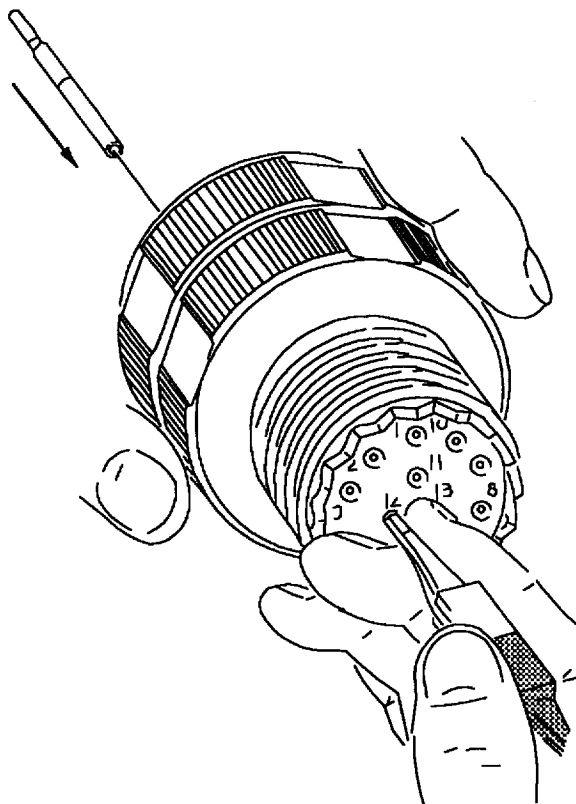
F/A-18-WRM-(533-8)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

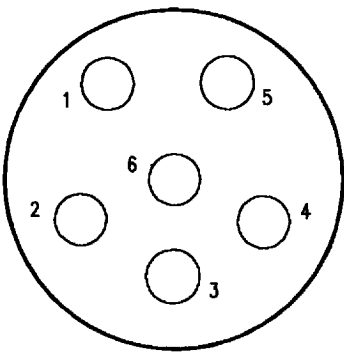
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



F/A-18-WRM-(533-9)02-SCAN

Figure 20. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(909-6)01-CATI

Reference Designation to Backshell Data Index for D38999-24KA35PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 22J-S027	S1842-64-30S	080 00
<div>1</div> 161924 AND UP.		

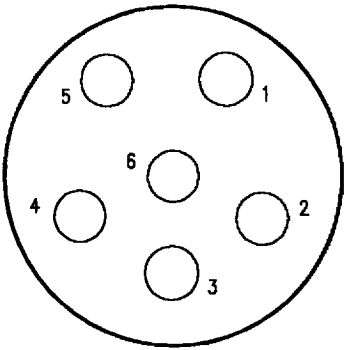
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/58-360	MS27488-22

Figure 21. D38999-24KA35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(809-6)01-CATI

Reference Designation to Backshell Data Index for D38999-26KA35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 22P-S027	G7924-9	060 00
 161924 AND UP.		

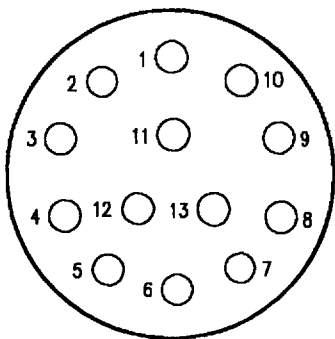
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M2252012-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/56-348	MS27488-22

Figure 22. D38999-26KA35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(911-13)01-CATI

Reference Designation to Backshell Data Index for D38999-24KB35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-R124	G7925-13	061 00
 161924 AND UP.		

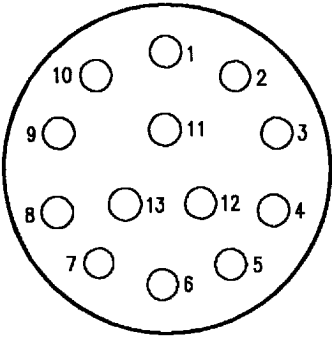
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/58-360	MS27488-22

Figure 23. D38999-24KB35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-13)01-CATI

Reference Designation to Backshell Data Index for D38999-26KB35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-R124	G7925-11	060 00
 161924 AND UP.		

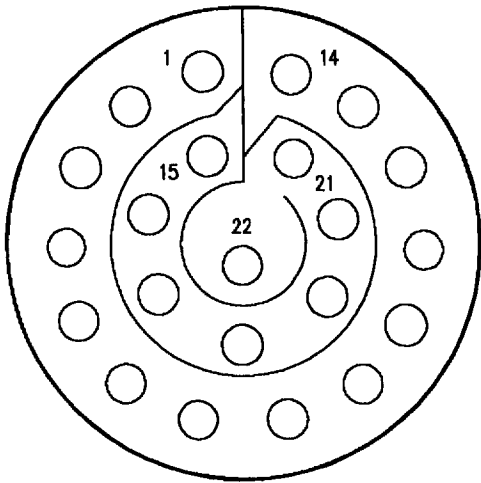
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/56-348	MS27488-22

Figure 24. D38999-26KB35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(913-22)01-CATI

Reference Designation to Backshell Data Index for D38999-24KC35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 22J-S030	G7924-13	061 00
 161924 AND UP.		

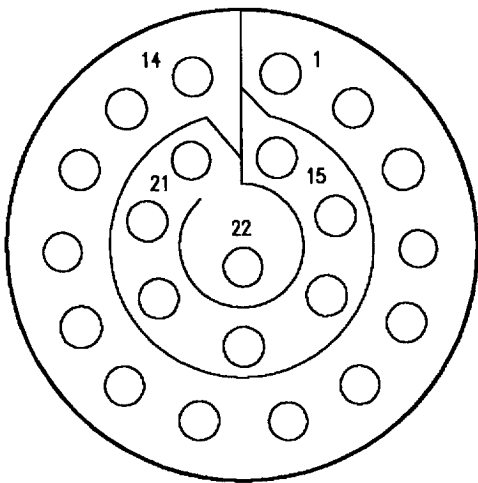
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/58-360	MS27488-22

Figure 25. D38999-24KC35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-22)01-CATI

Reference Designation to Backshell Data Index for D38999-26KC35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 22P-P030	G7925-13	061 00
 161924 AND UP.		

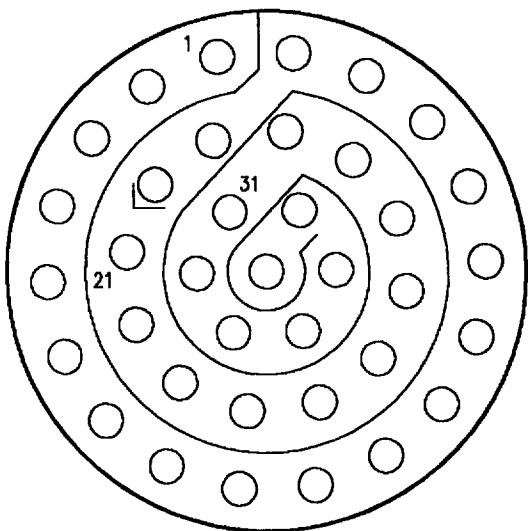
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/56-348	MS27488-22

Figure 26. D38999-26KC35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(915-37)01-CATI

Reference Designation to Backshell Data Index for D38999-24KD35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-P125	G7925-15	060 00
 161924 AND UP.		

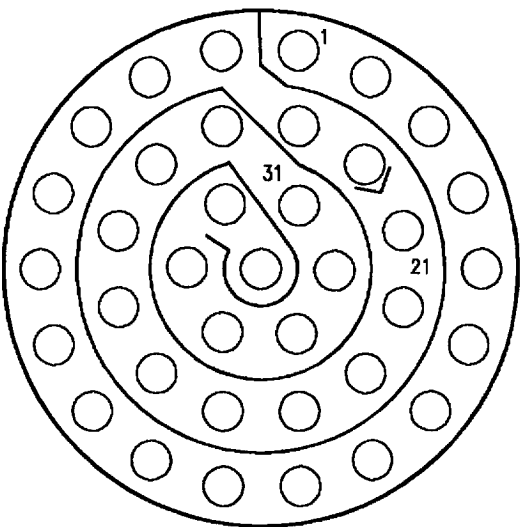
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/58-360	MS27488-22

Figure 27. D38999-24KD35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-37)01-CATI

Reference Designation to Backshell Data Index for D38999-26KD35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-P125	G7925-15	060 00
 161924 AND UP.		

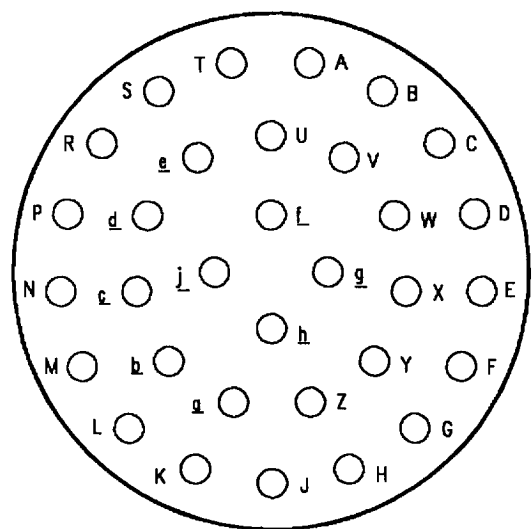
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/56-348	MS27488-22

Figure 28. D38999-26KD35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-32)01-CATI

Reference Designation to Backshell Data Index for D38999-24KF32SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 2J-P015	S1842-71-30S	08000
 F/A-18 161925 AND UP F/A-18B 161924 THRU 161947, 162836 AND UP.		

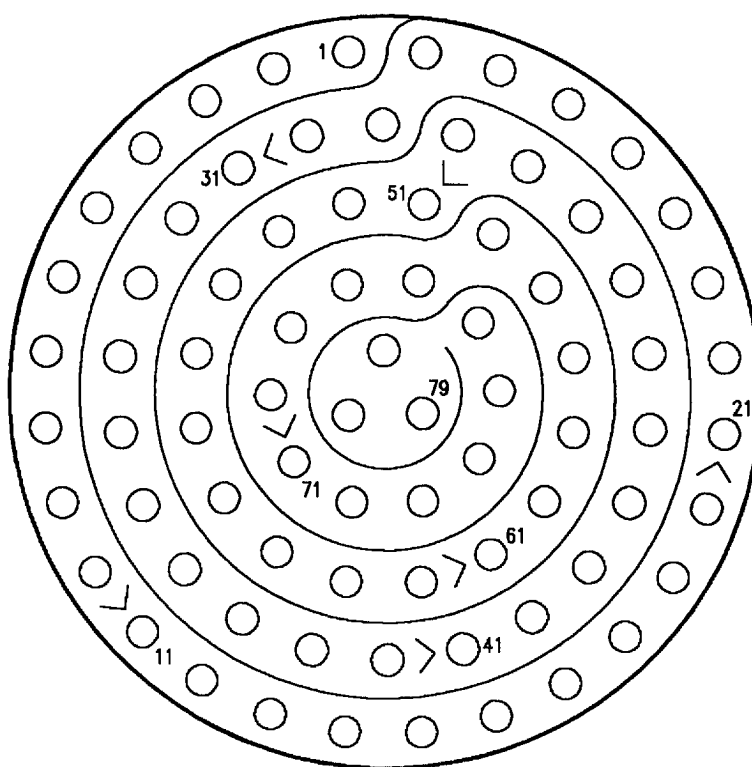
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-10
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU e, g, AND h	7/32	M39029/56-351	MS27488-20
f	7/32	10-407865-310	MS27488-20
i	7/32	10-407865-320	MS27488-20

Figure 29. D38999-24KF32SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(921-79)01-CATI

Reference Designation to Backshell Data Index for D38999-24KG35PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-R104	G7925-21	061 00
1 52J-T108	G7925-21	061 00
1 161924 AND UP.		

Reference Designation to Backshell Data Index for D38999-26KG35PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-P103	G7925-21	061 00
1 52P-P105	G7925-21	061 00
1 52P-S112	G7924-21	061 00
1 161924 AND UP.		

Figure 30. D38999-24KG35PN and D38999-26KG35PN Connectors (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data



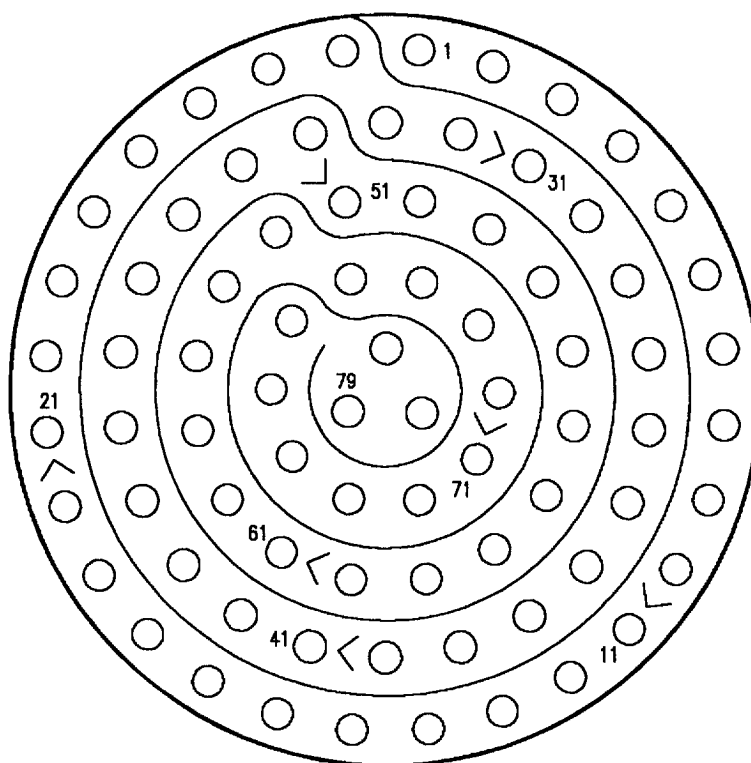
CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
 1 THRU 79	5/32	M39029/58-360	MS27488-22
 52J-R104 pin number 37 is a part number 030-2042-008 and pin number 49 is a 030-2042-009. 52P-P105 pin number 45 is a part number 030-2042-009 and pin number 63 is a 030-2042-008.			





Figure 30. D38999-24KG35PN and D38999-26KG35PN Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(821-79)01-CATI

Reference Designation to Backshell Data Index for D38999-24KG35SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-P103	S1841-72-30S	080 00
 52J-P105	G7925-21	061 00
 52J-P112	S1842-72-30S	080 00
 161924 AND UP.		

Reference Designation to Backshell Data Index for D38999-26KG35SN Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-R104	G7925-21	061 00
 52P-T108	S1841-72-30S	080 00
 161924 AND UP.		

Figure 31. D38999-24KG35SN and D38999-26KG35SN Connectors (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data



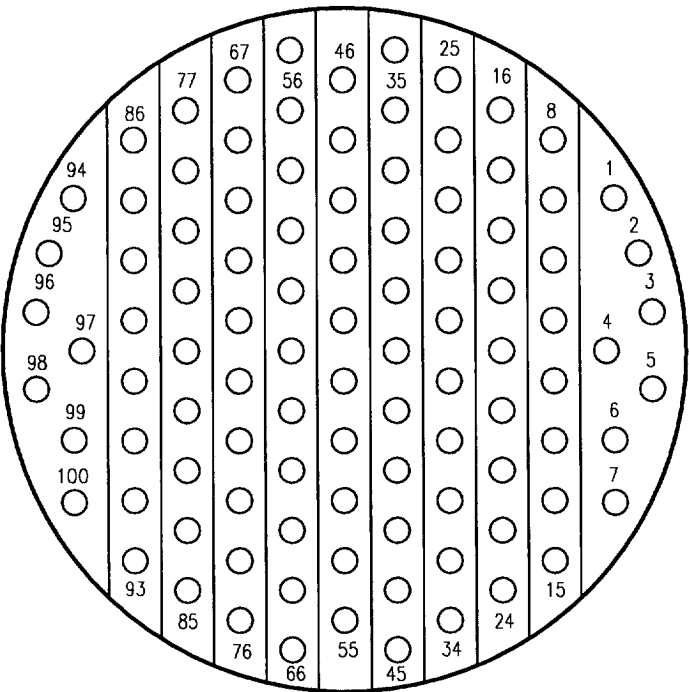
CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
 1 THRU 79	5/32	M39029/56-348	MS27488-22
 52P-R104 socket number 37 is a part number 031-1147-010 and socket number 49 is a 031-1147-011. 52J-P105 socket number 45 is a part number 031-1147-011 and socket number 63 is a 031-1147-010.			

Figure 31. D38999-24KG35SN and D38999-26KG35SN Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-35)01-CATI

Reference Designation to Backshell Data Index for D38999-26KH35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-R102	G7925-23	061 00
 161924 AND UP.		

Table 1. Tool Data

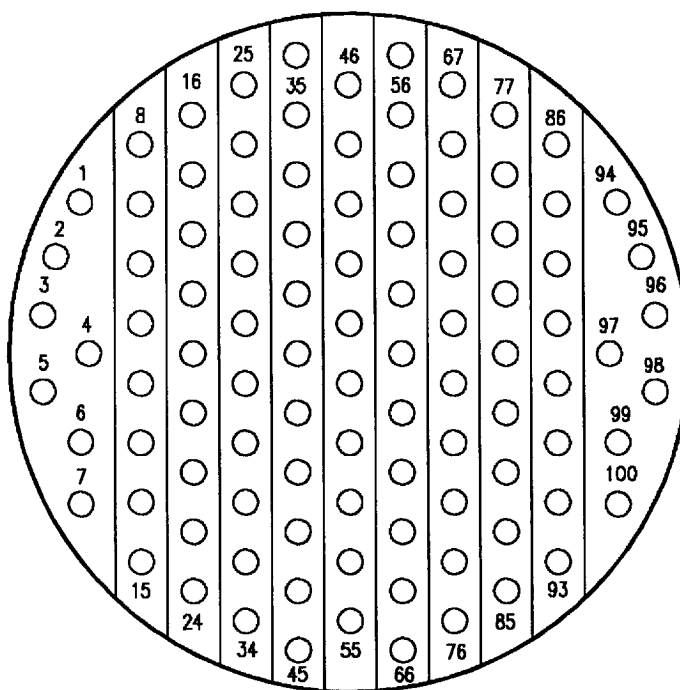
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 32. D38999-26KH35PN Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 17, 19 THRU 26, 28 THRU 36, 38 THRU 46 AND 48 THRU 100	5/32	M39029/58-360	MS27488-22
18 AND 37	5/32	030-2042-009	MS27388-22
27 AND 47	5/32	030-2042-008	MS27488-22

Figure 32. D38999-26KH35PN Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-35)01-CATI

Reference Designation to Backshell Data Index for D38999-24KH35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-R102	S1841-74-30S	080 00
 F/A-18A 161925 AND UP; F/A-18B 161924 THRU 161947, 162836 AND UP.		

Table 1. Tool Data

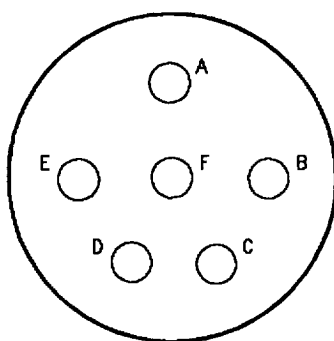
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 33. D38999-24KH35SN Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 17, 19 THRU 26, 28 THRU 36, 38 THRU 46 AND 48 THRU 100	5/32	M39029/56-348	MS27488-22
18 AND 37	5/32	031-1147-011	MS27488-22
27 AND 47	5/32	03-1147-011	MS27488-22

Figure 33. D38999-24KH35SN Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-6)01-CATI

Reference Designation to Backshell Data Index for D38999-26KB98SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 24P-M002	S1842-65-30S	080 00
1 24P-N006	S1841-65-30S	080 00
1 24P-N021	S1841-65-30S	080 00
1 24P-P003	S1841-65-30S	080 00
1 24P-P005	S1841-65-30S	080 00
1 24P-P007	S1841-65-30S	080 00
1 24P-R004	S1841-65-30S	080 00
1 24P-S009	G7925-11	061 00
1 24P-T008	G7924-11-1	061 00
1 24P-T010	G7925-11	061 00
1 161924 AND UP.		

Reference Designation to Backshell Data Index for D38999-26KB98SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 4P-P009	G7924-13	061 00
2 4P-P010	G7925-13	061 00
1 4P-P021	G7924-13	061 00
1 4P-R015	G7924-13	061 00
1 4P-R016	G7924-13	061 00
1 4P-R022	G7924-13	061 00
1 4P-S011	None	None
1 4P-S013	None	None
1 4P-S014	None	None
1 4P-T017	None	None
1 4P-S019	None	None
1 4P-T020	None	None
1 161924 AND UP.		
2 161522 AND UP.		

Figure 34. D38999-26KB98SA and D38999-26KB98SN Connectors (Sheet 1)

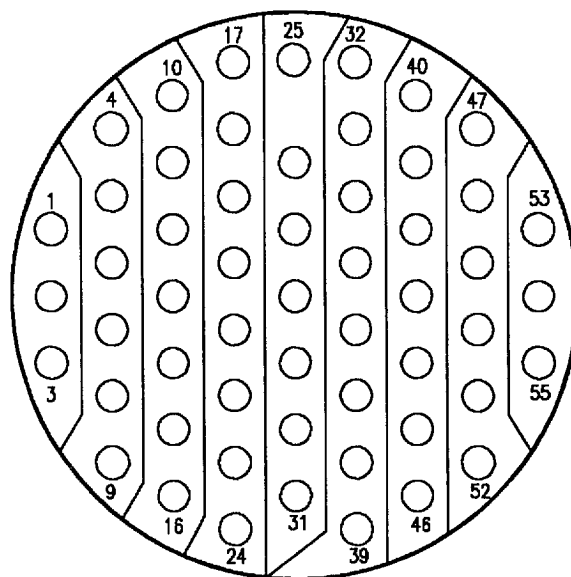
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/56-351	MS27488-20

Figure 34. D38999-26KB98SA and D38999-26KB98SN Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-55)01-CATI

Reference Designation to Backshell Data Index for D38999-26WE35SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
76P-F001B	10-552682-179	070 00
76P-F002B	10-552682-179	070 00

Reference Designation to Backshell Data Index for D38999-26WE35SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 77P-K001B	10-552682-179	070 00
2 77P-L001B	10-552682-179	070 00
1 F/A-18B		
2 F/A-18A		

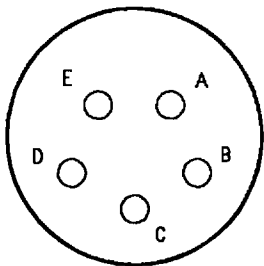
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 35. D38999-26WE35SC and D38999-26WE35SN Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/56-348	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(810-5)01-CATI

Reference Designation to Backshell Data Index for D38999/46WB5SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 1P-D155	10-552682-119	070 00
 163119 AND UP		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU E	5/32	M39029/56-351	MS27488-20

Figure 36. D38999/46WB5SN Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****MS27467, KJL6J9, KJL6T9 AND 88-4887XX (MIL-C-38999 SERIES 1)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Expando Sleeve Installation for Environmental Type Connectors With	
Molded Plastic Cable Clamps	WP070 00
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Protective Boot Installation for Environmental Type Connectors With	
Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 19	—	Addition of a Second Shoot Light Power Supply Connector (WUC 44314)	1 Oct 93	—
F18 AFC 27	—	Improvement of Leading Edge Flap Design (ECP-MDA-F/A-18-00044)	15 Mar 87	—
F18 AFC 39	30 Jun 93	Addition of a Second Shoot Light Power Supply Connector (WUC 44314)	1 Oct 93	—
F18 AFC 48	8 Apr 86	Alternating Current Bus Isolation (ECP MDA-F/A-18-00121)	1 Sep 86	—
F18 AFC 49	31 Jan 86	Addition of Sealed Lead Acid Bat- tery (ECP MDA-F/A-18-00074)	1 Sep 86	—
F18 AFC 54	—	Incorporation of Video Recorder Set	1 Oct 93	—
F18 AFC 57	—	Improved Aircraft Monitor and Con- trol (AMAC), Installation of	1 Oct 93	—
















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


















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












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




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
















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









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







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
















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



















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








**Reference Designation to Figure
Number Index (Continued)**

Reference Designation	Figure No.
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7P-T038	46
70P-F001A	43
70P-F001B	73
76P-B003	29
76P-B023A	30












Reference Designation to Figure
Number Index (Continued)

Reference Designation	Figure No.
76P-F004A	33
76P-H009A	74
76P-H009B	74
76P-H009D	43
 76P-K032	43
 78P-K005	30
 78P-L005	30
 79P-E023	33
 79P-L023	33
8P-H052	80
8P-J002	43
8P-J042	50
8P-L001A	50
8P-L001B	73
 8P-L080	30
 8P-L080A	33
 8P-L080B	30
 8P-L097A	50
 8P-L097B	73
 8P-L098	43
 8P-L127	50
 80P-K023	33
82P-F001A	74
82P-F001B	62
82P-F001C	74
83P-E001A	73
83P-E001B	30
83P-E001C	73
83P-E001D	42
83P-E001E	42
83P-E005	33
83P-F002A	73
83P-F002B	30
83P-F002C	73
83P-F002D	42
83P-F002E	42
83P-F004	33
 84P-C026	33
 84P-C026A	33
 84P-C031	50
 84P-C031	62
84P-C034	50
 84P-C092	34
84P-D012A	33
84P-D012B	33
 84P-D032	50
 84P-D032	62

Reference Designation to Figure
Number Index (Continued)

Reference Designation	Figure No.
84P-D033	50
84P-D093	34
 84P-E041	73
 84P-E041	74
84P-E044	73
 84P-E045	73
 84P-E045	74
84P-E048	74
 84P-E092	34
 84P-E094	43
84P-F001A	73
84P-F001B	74
84P-F001C	59
84P-F001D	74
84P-F001E	58
84P-F001F	54
84P-F001H	74
84P-F001J	73
84P-F001K	58
84P-F001L	74
84P-F001M	59
84P-F001P	54
84P-F002A	73
84P-F002B	74
84P-F002C	59
84P-F002D	74
84P-F002E	58
84P-F002F	54
84P-F002H	74
84P-F002J	73
84P-F002K	58
84P-F002L	74
84P-F002M	59
84P-F002P	54
84P-F004A	33
84P-F004B	33
84P-F005A	33
84P-F005B	33
84P-F006A	43
84P-F006B	43
84P-F007A	43
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84P-F046	74
 84P-F047	73









Reference Designation to Figure
Number Index (Continued)

Reference Designation	Figure No.
 84P-F047	74
 84P-F095	43
84P-G035A	30
84P-G035B	30
84P-G036	80
84P-H003A	43
84P-H003B	43
84P-J037	50
84P-J104	30
84P-J122A	32
 84P-J122B	32
 84P-L096	50
 84P-M021A	33
 84P-M021A	50
84P-M021B	33
84P-M021C	33
 84P-M021D	33
84P-M029A	30
84P-M029B	30
84P-M029C	30
84P-M029D	30
84P-M051	49
 84P-M110A	33
 84P-M110B	33
 84P-M132	33
 84P-M133	33
84P-N052	49
84P-P053	73
84P-P054	68
84P-P059	50
84P-P060	43
84P-P067	42
84P-R056	73
84P-R057	68
84P-R064	43
84P-R065	43
84P-R068	42
84P-S015A	33
84P-S015B	33
84P-S015C	33
84P-S015D	33
84P-S017A	33
84P-S017B	33
84P-S055	61
84P-T016A	33
84P-T016B	33

Reference Designation to Figure
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84P-T016C	33
84P-T016D	33
84P-T018A	33
84P-T018B	33
84P-T058	67
84P-U013A	33
84P-U013B	33
84P-U013C	33
84P-U013D	33
84P-U019A	33
84P-U019B	33
84P-U027A	33
84P-U027B	33
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84P-V014C	33
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84P-V020A	33
84P-V020B	33
84P-V028A	33
84P-V028B	33
84P-V050	43
85P-F001A	74
85P-F001B	62
85P-F007	43
85P-G003A	43
85P-N002A	74
85P-N002B	68
85P-N002C	68
85P-N002D	74
9P-P005	43

LEGEND

-  161353 THRU 161359.
-  161353 THRU 161528.
-  161353 THRU 161924 BEFORE F18 AFC 57.
-  F/A-18A,
F/A-18B 161354 THRU 161947, 162836
AND UP.
-  F/A-18A
-  161361 AND UP.
-  161702 AND UP; ALSO 161353 THRU
161528 AFTER F18 AFC 74.
-  161702 AND UP.

Reference Designation to Figure Number Index (Continued)

Reference Designation	Figure No.
9 F/A-18B 161354 THRU 161924.	
10 F/A-18B	
11 161925 AND UP; ALSO 161248 THRU 161924 AFTER F18 AFC 57.	
12 161353 THRU 161519.	
13 161520 AND UP.	
14 161522 AND UP.	
15 163092 AND UP.	
16 F/A-18A 163092 AND UP.	
17 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 49.	
18 161353 THRU 161519 BEFORE F18 AFC 27.	
19 F/A-18A 161520 AND UP, F/A-18B 161704 THRU 161947, 162836 AND UP.	
20 F/A-18A 161520 AND UP, F/A-18B 161354 THRU 161360 ALSO; F/A-18A 161353 THRU 161519 AFTER F18 AFC 39.	
21 161353 THRU 161357, 161359 AND UP.	
22 161353 THRU 161519 AFTER F18 AFC 27.	
23 161353 THRU 161359 BEFORE F18 AFC 19.	
24 161360 AND UP; ALSO 161353 THRU 161359 AFTER F18 AFC 19.	
25 F/A-18 161353 THRU 163144, F/A-18B 161354 AND UP.	
26 162445 AND UP.	
27 162394 AND UP; ALSO 161353 THRU 161987 AFTER F18 AFC 48.	
28 F/A-18B 163104 AND UP.	
29 F/A-18B 161704 AND UP; ALSO 161354 THRU 161360 AFTER F18 AFC 54.	
30 F/A-18A 161702 AND UP; ALSO F/A-18A 161353 THRU 161528 AFTER F18 AFC 54.	
31 161353 THRU 161359 AFTER F18 AFC 19.	
32 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27.	
33 F/A-18B 161704 AND UP.	
34 161353 THRU 161360 BEFORE F18 AFC 27.	

Reference Designation to Figure Number Index (Continued)

Reference Designation	Figure No.
35 161361 AND UP; ALSO 161353 THRU 161360 AFTER F18 AFC 27.	
36 F/A-18A 161620 AND UP F/A-18B 161704 THRU 161947, 162836 AND UP.	
37 162394 AND UP; ALSO 161353 THRU 161987 AFTER F18 AFC 48.	
38 161520 AND UP; ALSO F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.	
39 161353 THRU 161528 BEFORE F18 AFC 49.	
40 161702 AND UP; ALSO 161363 THRU 161528 AFTER F18 AFC 49.	
41 162394 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 49 AND 161702 THRU 161987 AFTER F18 AFC 48.	
42 161353 THRU 161519 BEFORE F18 AFC 49.	
43 F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.	
44 F/A-18A 161702 AND UP, F/A-18B; ALSO F/A-18A 161353 THRU 161528 AFTER F18; AFC 54.	
45 161353 THRU 161987 BEFORE F18 AFC 48.	
46 161737 AND UP.	
47 162826 AND UP.	

1. **DESCRIPTION.**

2. The MIL-C-38999, Series 1, electrical connectors are bayonet coupling, circular environmental resistant type connectors. They are low silhouette design for minimum size and weight with a high density contact layout. The Series 1 connector has a scoop-proof design. These connectors provide electrical continuity between mated shells before contact engagement and have the contacts located to be protected from handling damage and inadvertent electrical contact.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-38999, Series 1, connectors used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
DMC498-1001	Repair Set-Wire and Connector
K532	Positioner
M22520/4-01	Crimp Tool Handle
M22520/4-02	Positioner

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

MS27467T15B35PA

MS NO. _____

CLASS _____

E-ENVIRONMENT WITH REAR HARDWARE
T-ENVIRONMENT WITHOUT REAR HARDWARE

SHELL SIZE _____

9, 11, 13, 15, 17, 19, 21, 23, 25

FINISH (COLOR) _____

A-BRIGHT CADMIUM PLATE OVER NICKEL
B-OLIVE DRAB CADMIUM PLATE

INSERT ARRANGEMENT NO. _____

4, 5, 6, 8, 11, 15, 16, 18, 24, 26, 29, 35, 39, 41,
61, 97, 98, 99

STYLE _____

P-PIN
S-SOCKET

POLARIZATION, NO LETTER REQUIRED IF NORMAL

A PLUG WITH A GIVEN ROTATION LETTER WILL MATE WITH A RECEPTACLE WITH THE SAME ROTATION LETTER. THE AB ANGLE FOR A GIVEN CONNECTOR IS THE SAME WHETHER IT CONTAINS PINS OR SOCKETS. INSERTS ARE NOT ROTATED WITH THE MASTER KEY/KEYWAY.

AB ANGLES SHOWN ARE VIEWED FROM THE FRONT FACE OF THE CONNECTOR, A RECEPTACLE IS SHOWN BELOW. THE ANGLES FOR THE PLUG ARE IDENTICAL EXCEPT THE DIRECTION OF ROTATION IS OPPOSITE OF THAT SHOWN FOR THE RECEPTACLE.

RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY. (FRONT FACE OF RECEPTACLE SHOWN)

**SERIES 1
MASTER KEY/KEYWAY ROTATION**

AB ANGLE OF ROTATION (DEGREES)					
SHELL SIZE	NORMAL	A	B	C	D
9	95°	77°	-	-	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

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Figure 1. Military Part Numbering System for MIL-C 38999, Series 1, Connectors

5. CORROSION CONTROL

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

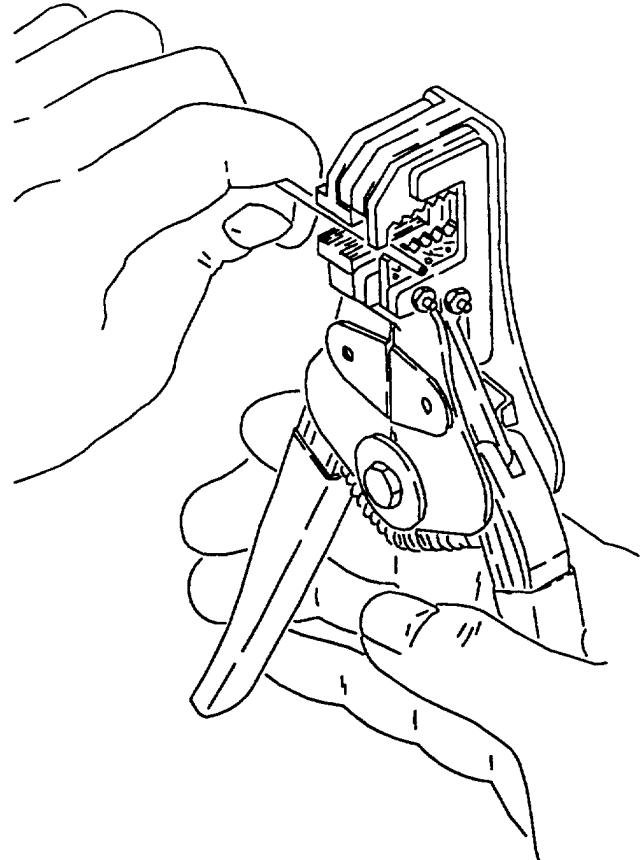
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-100 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

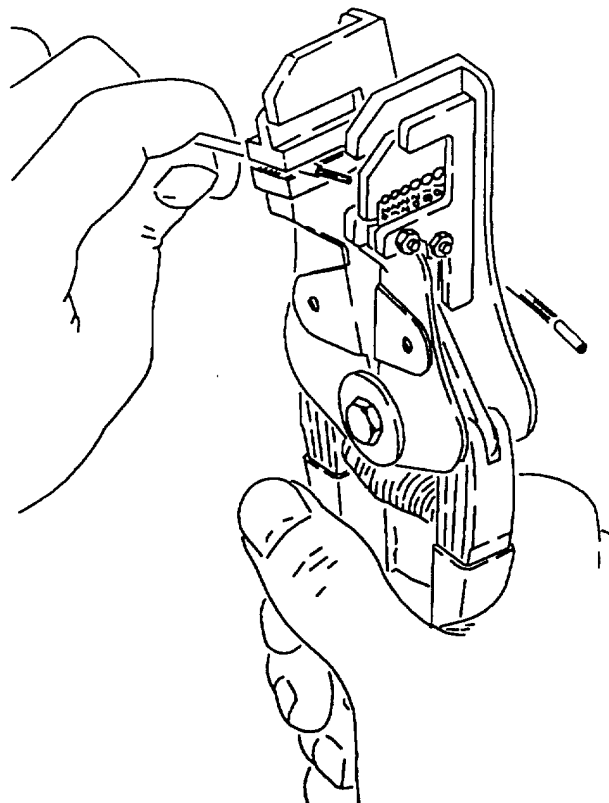
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



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Figure 2. Placing Wire in Slot of Stripping Tool

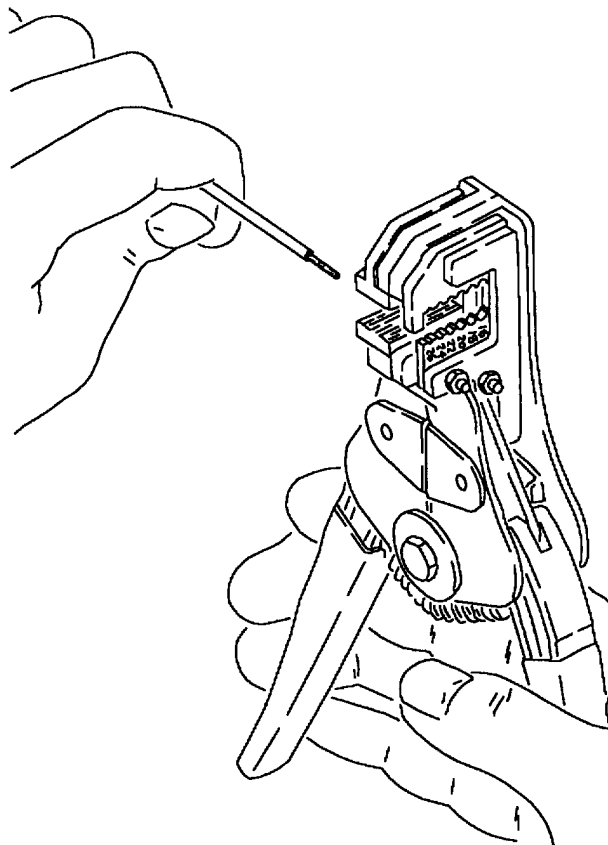
e. Close handles together as far as they will go. See figure 3.



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Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

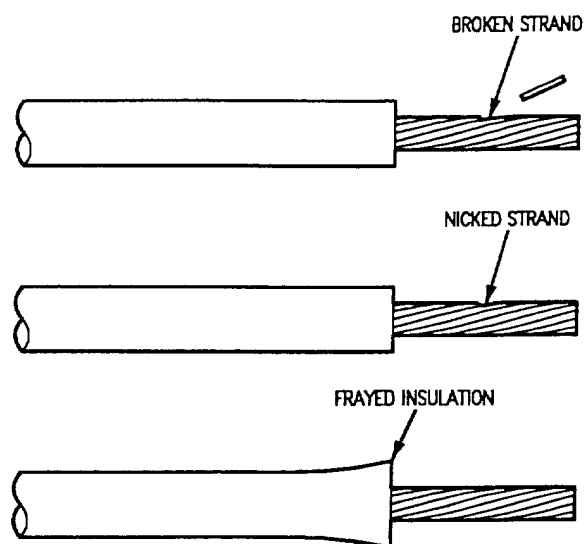


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. The below conditions are unacceptable. See figure 5.



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Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

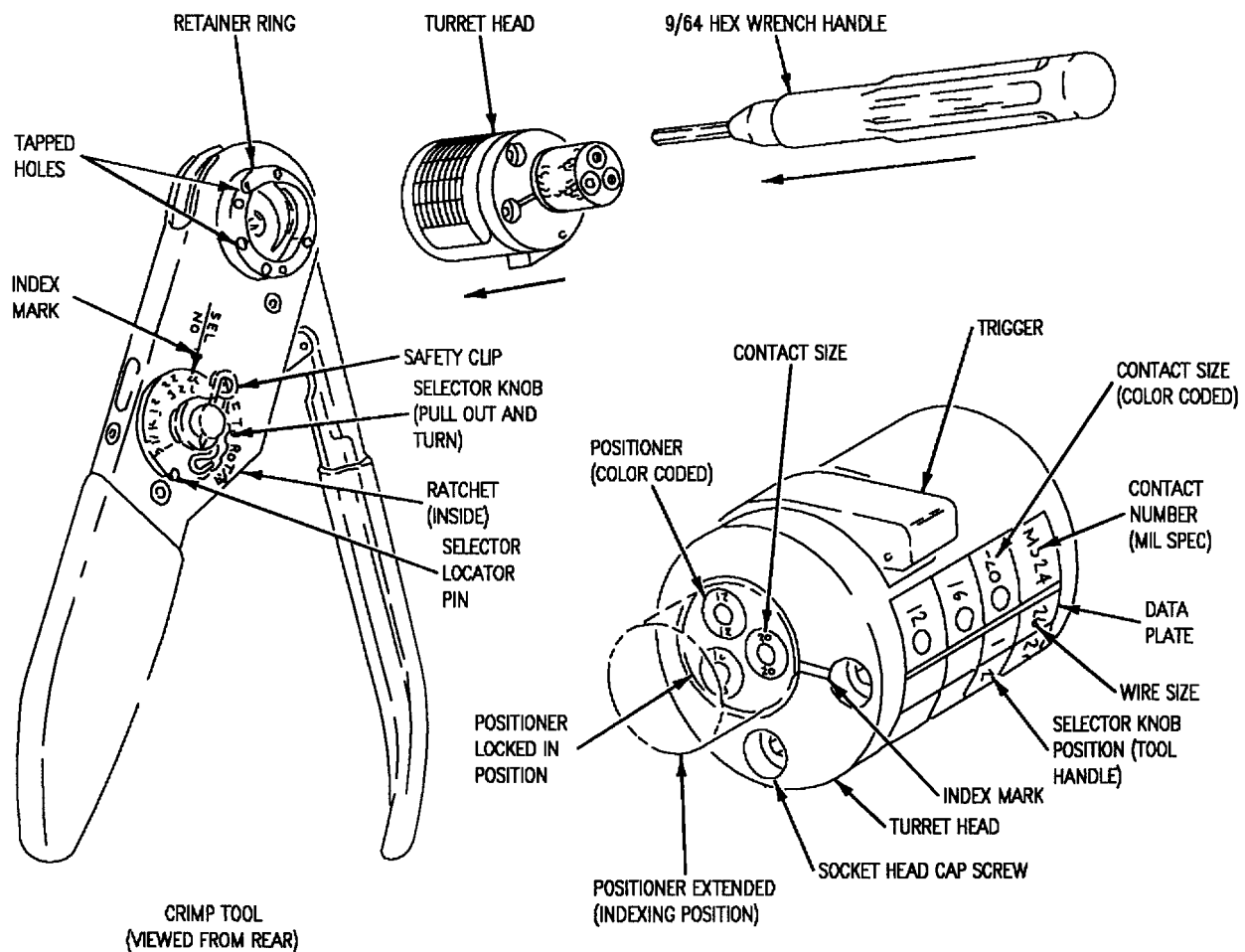
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes, open handles completely and lift off crimp tool.



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Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

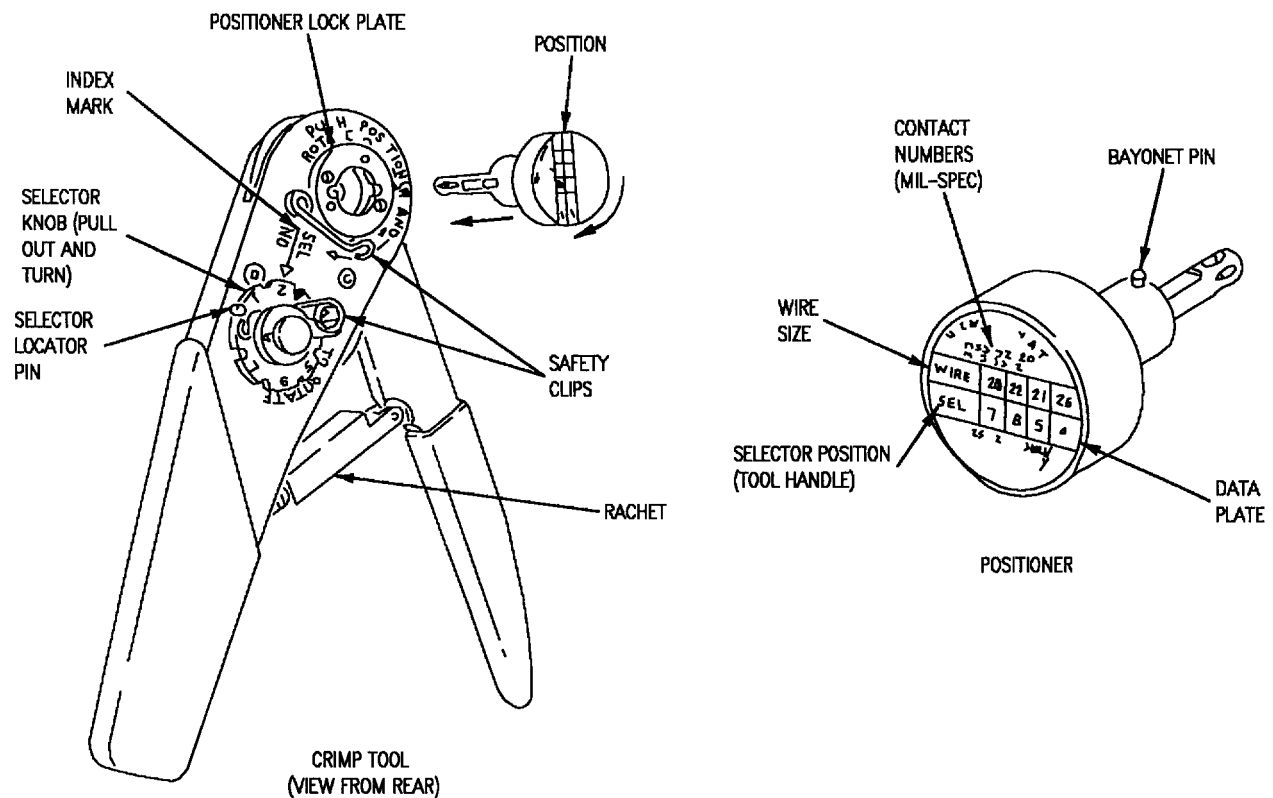
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

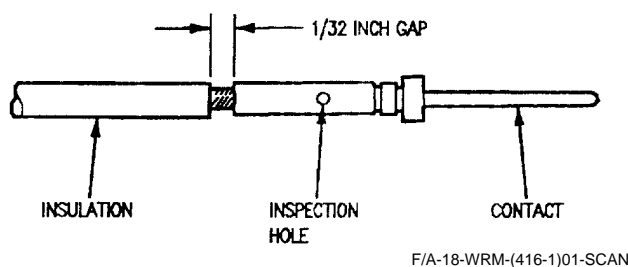
14. SETTING SELECTOR KNOB.

- a. Locate wire size on data plate of positioner and note corresponding selector number.
- b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- c. Install safety clip.

15. CONTACT CRIMPING.

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 8.

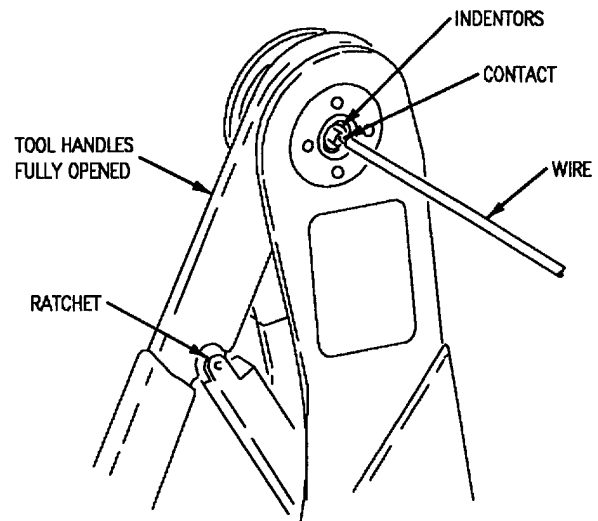
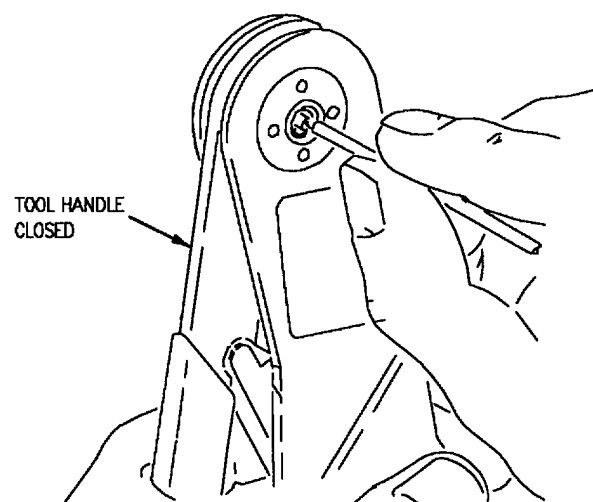
**Figure 8. Strip Gap Check**

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.

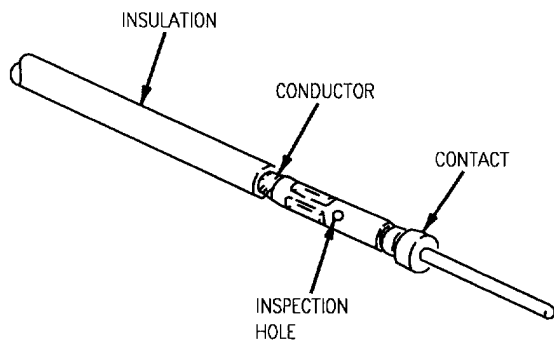
**DETAIL A****DETAIL B****Figure 9. Contact Crimping**

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



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Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

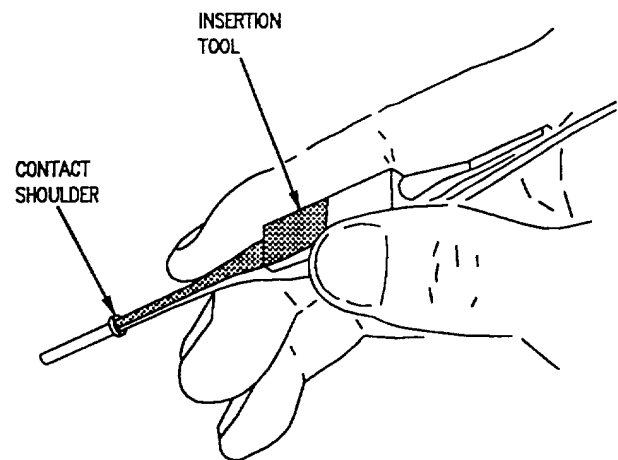
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 11.



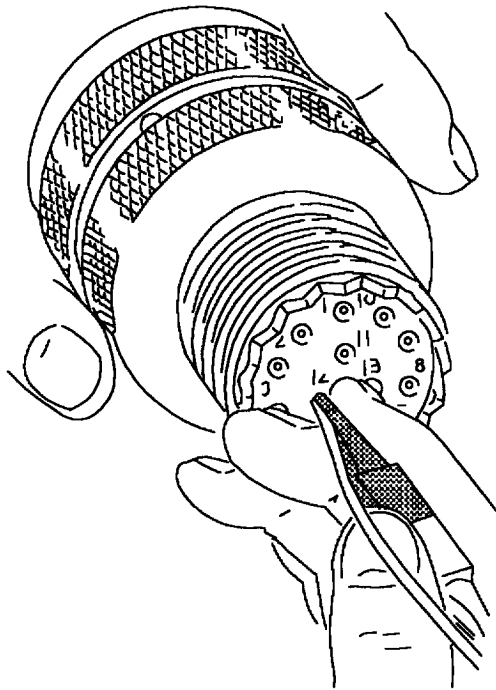
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



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Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 12.

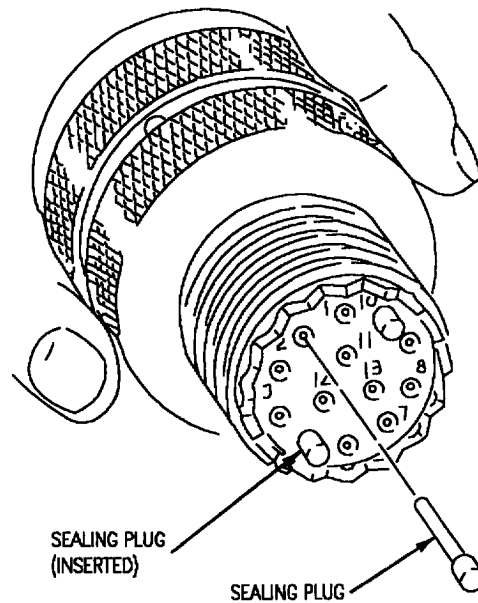


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Figure 12. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to check that contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.



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Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

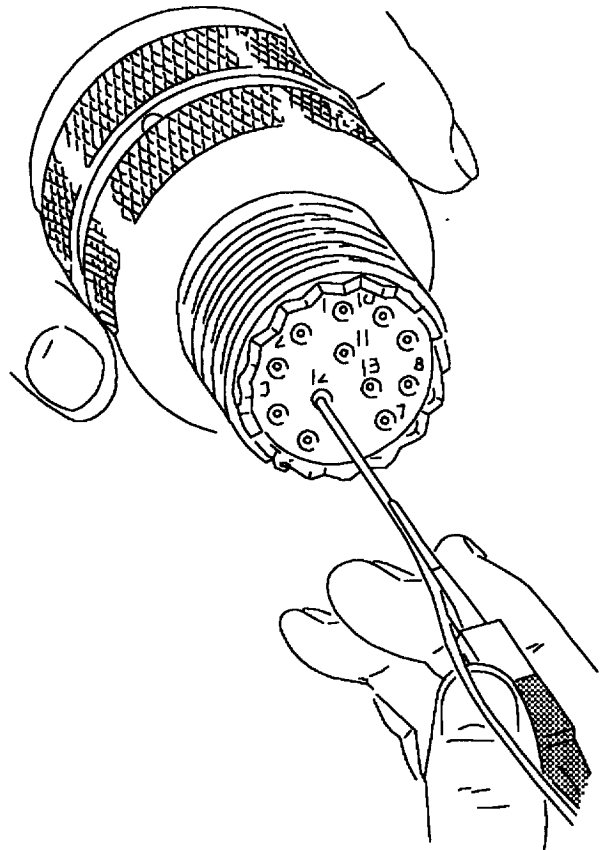
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

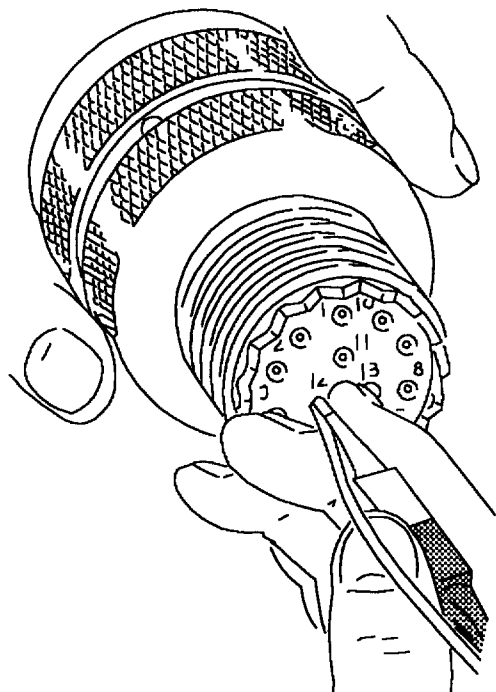
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.



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Figure 14. Removal Tool on Wire

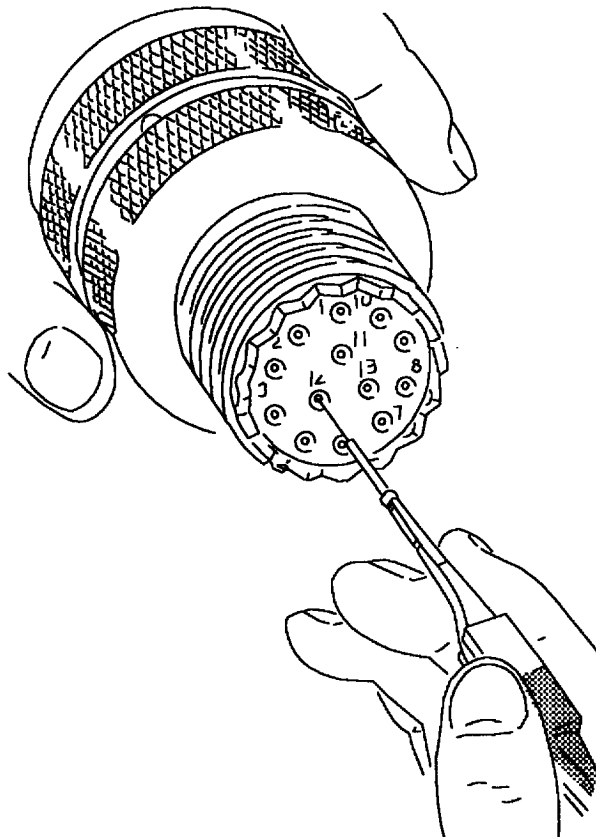
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.



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Figure 15. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



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Figure 16. Removing Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

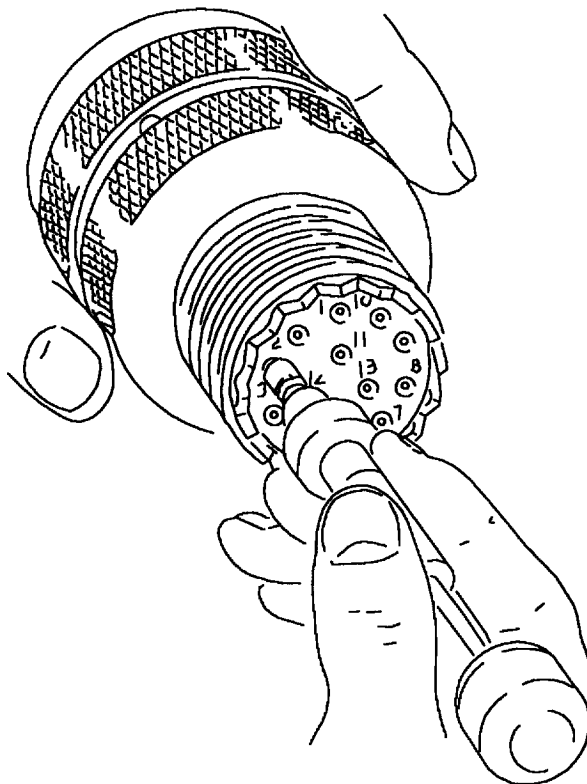
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

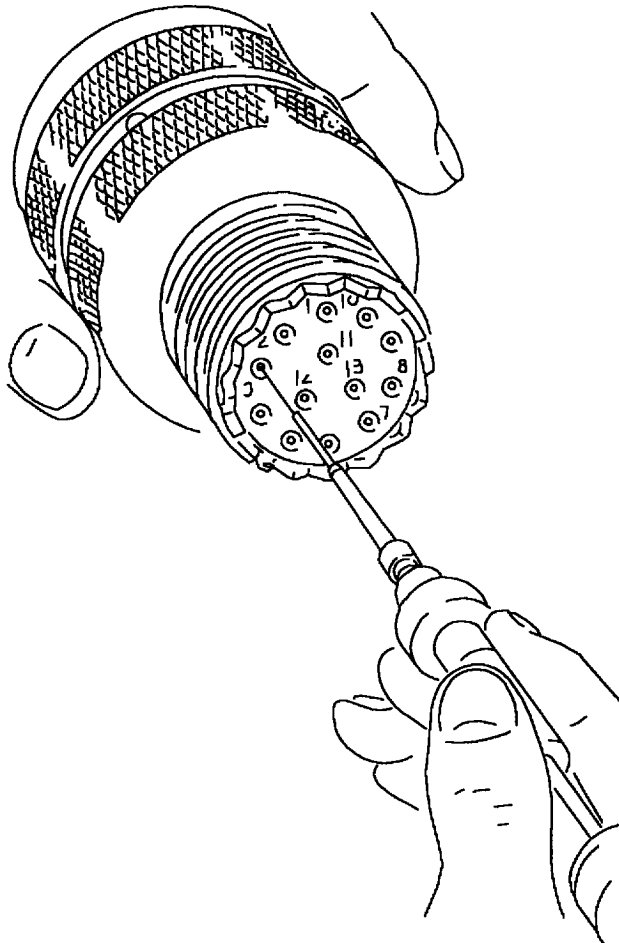
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 17.



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Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



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Figure 18. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

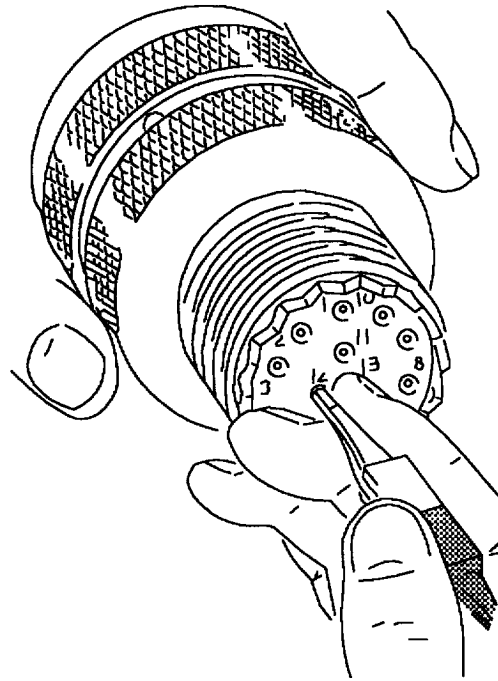
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



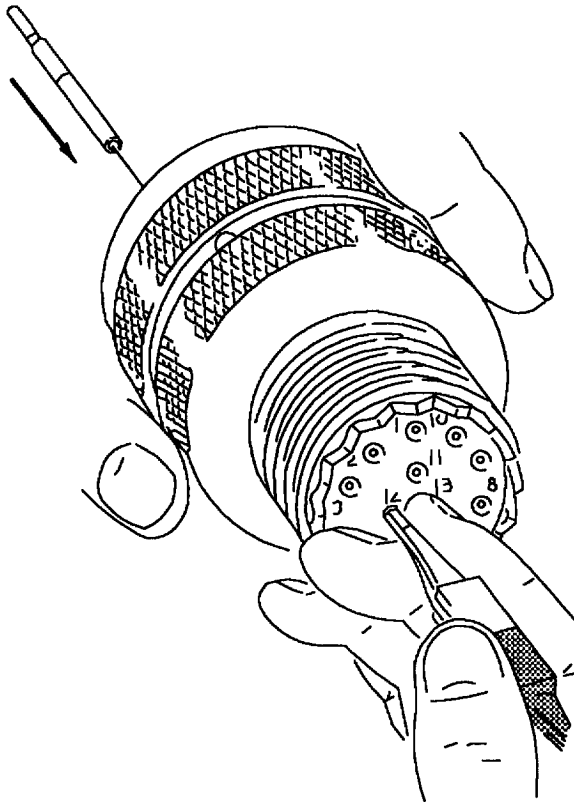
F/A-18-WRM-(49-8)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



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Figure 20. Broken Wire Contact Removal

20. COAX REPAIR PROCEDURES.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

21. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

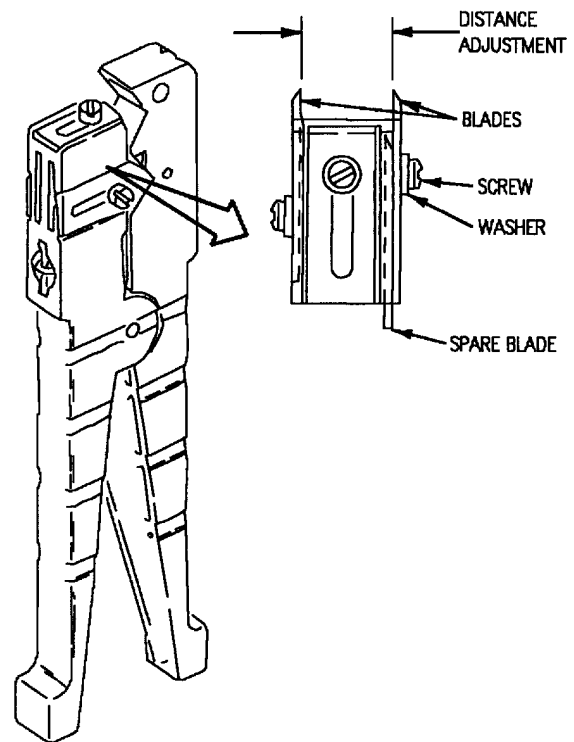
22. DISTANCE ADJUSTMENT.

- a. Measure distance between blades. See figure 21.
- b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades $\frac{3}{64}$ -inch.

- c. Install screws and tighten finger tight.
- d. Adjust depth of cut.



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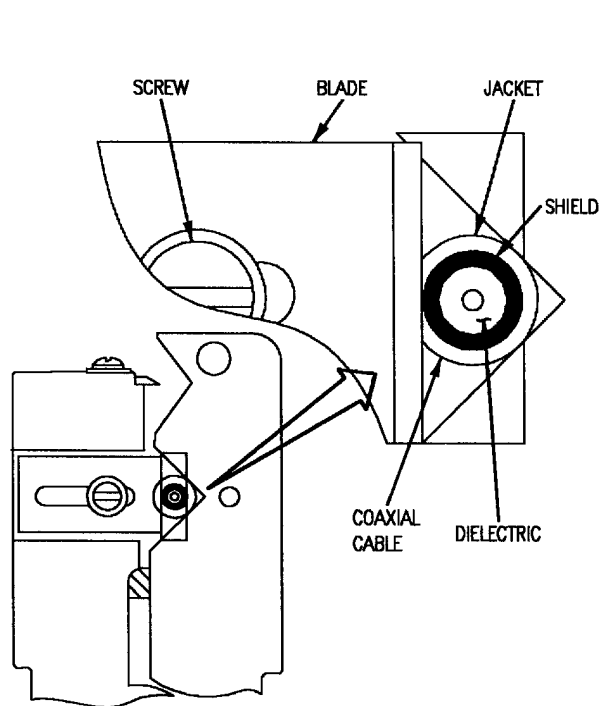
Figure 21. Distance Adjustment

23. CUT ADJUSTMENT.

NOTE

Do a test strip on spare coax before stripping coax to be used.

- a. Position coaxial cable in stripper until the end butts against the blade. See figure 22.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



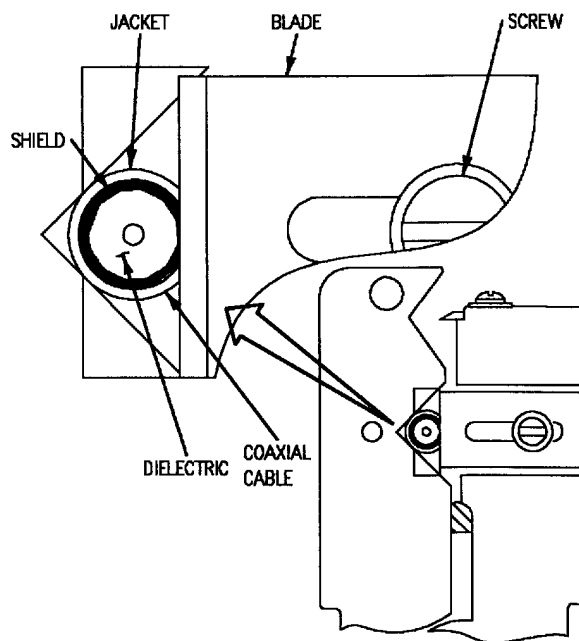
F/A-18-WRM-(409-3)01-CATI

Figure 22. Jacket Cut Adjustment

- c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 23.

- d. Adjust blade so it cuts through shield without damaging dielectric.

- e. If required, repeat steps 23a through 23d until blades cut through jacket and shield without damaging shield and dielectric.



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Figure 23. Shield Cut Adjustment

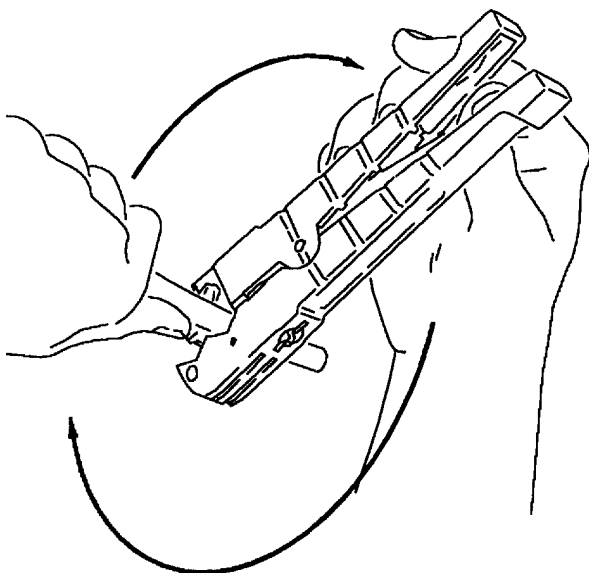
24. USE.

- a. Position stripper on cable so that blades face down. See figure 24.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off cable.

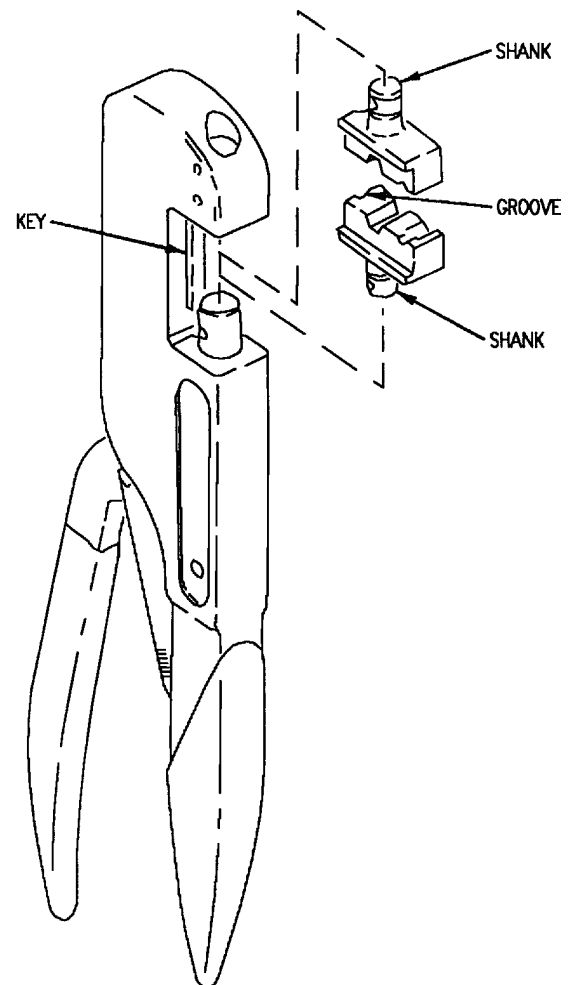
- b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to complete cut.
- c. Remove stripper from cable.
- d. Remove stripped jacket and shield.



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Figure 24. Operation**25. CRIMP TOOL M22520/5-01 ASSEMBLY AND USE.****26. DIE INSTALLATION.**

- a. Align groove in die with key in crimping tool and push shank of die into hole.
- b. Close handle to make sure dies are seated and locked in place. See figure 25.

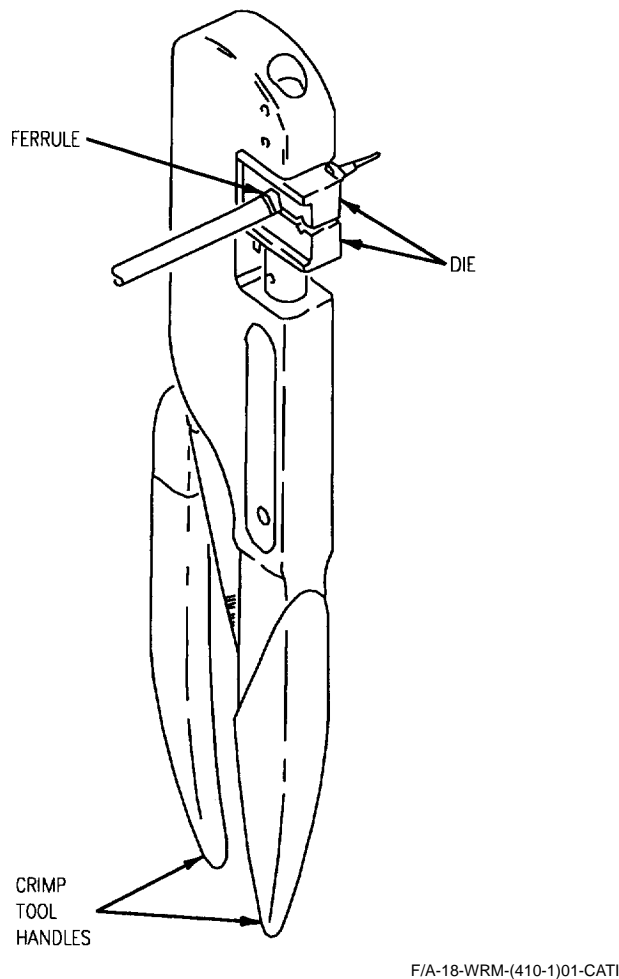


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Figure 25. Die Installation

27. CRIMPING PROCEDURE.

- a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 26.

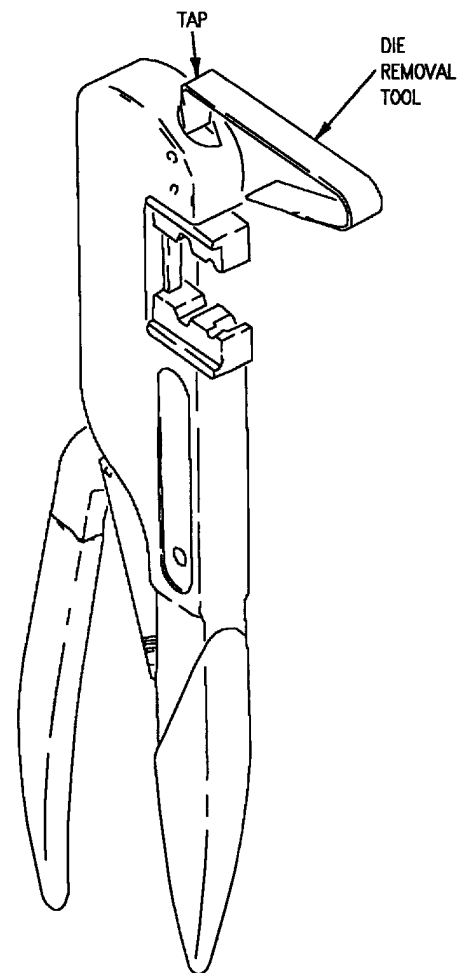
**Figure 26. Crimp Positioning**

- b. Squeeze tool handles until ratchet releases.
- c. Open handles and remove ferrule assembly and inspect crimp.

28. DIE REMOVAL.**NOTE**

Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

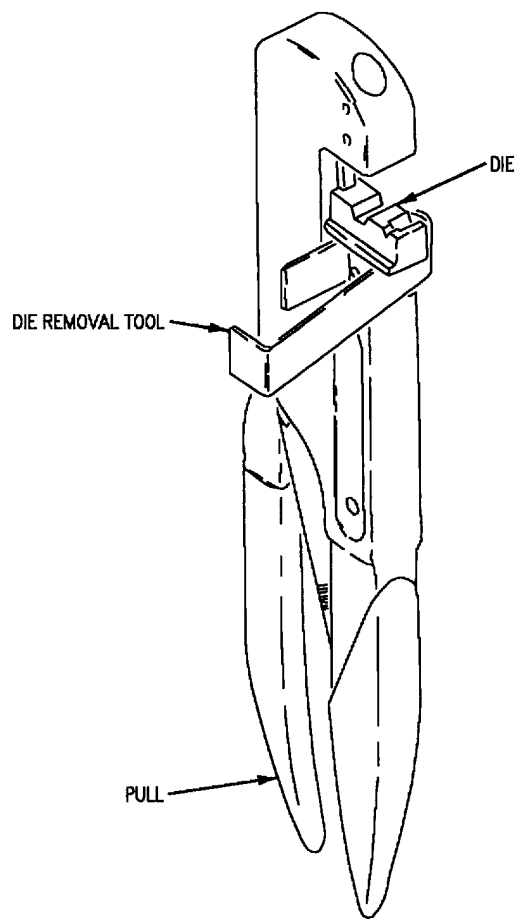
- a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 27.

**Figure 27. Upper Die Removal**

b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

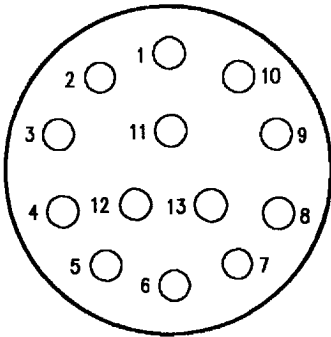
c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 28.

d. Pull handle open with snap action. The die will be released from the lock spring and can then be removed by hand.



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Figure 28. Lower Die Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(911-13)01-CATI

Reference Designation to Backshell Data Index for MS27467T11B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 19P-S013	G7057-11-1NF	060 00
20P-J003	G7057-11-1NF	060 00
<div>2</div> 52P-H088	M85049/45W10	070 00
52P-P157	G7183-11-NF	070 00
52P-P158	G7183-11-NF	070 00
76P-B003	G7056-11-NF	060 00
<div>1</div> 161522 AND UP		
<div>2</div> 161353 THRU 161528		

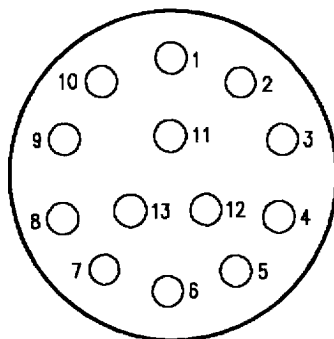
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/58-360	MS27488-22

Figure 29. MS27467T11B35P Connector



AS VIEWED FROM REAR OF CONNECTOR



























F/A-18-WRM-(811-13)01-CATI

Reference Designation to Backshell Data Index for MS27467T11B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 10P-G009	G7057-11-1NF	060 00
2 10P-G009	G7056-11-NF	060 00
13P-G008	G7056-11-NF	060 00
22P-E003	G7056-11-NF	060 00
22P-G073	G7056-11-NF	060 00
3 22P-G172	G7056-11-NF	060 00
22P-H069	M85049/46W10	070 00
22P-J026	M85049/46W10	070 00
22P-J068	M85049/46W10	070 00
4 22P-K114	M85049/46W10	070 00
5 22P-K171	M85049/46W10	070 00
4 22P-L113	M85049/46W10	070 00
22P-M076	M85049/45W10	070 00
22P-M084	M85049/46W10	070 00
3P-E079	M85049/46W10	070 00
6 3P-M008	M85049/46W10	070 00
7 3P-N008	M85049/46W10	070 00
3P-P006	G7056-11-NF	061 00
3P-R007	G7056-11-NF	061 00
4 33P-J002	MS27669B10	080 00
8 33P-J002	MS27669B10	080 00
33P-L016	M85049/46W10	070 00
5P-B006	G7057-11-1F	060 00
9 5P-E035	M85049/45W10	070 00
10 5P-E035	M85049/46W10	070 00
11 5P-F035	M85049/45W10	070 00
12 5P-F035	M85049/46W10	070 00
13 5P-M036	M85049/45W10	070 00
14 5P-M036	M85049/46W10	070 00
13 5P-N040	M85049/45W10	070 00
14 5P-N040	M85049/46W10	070 00
5P-P069	M85049/45W10	070 00
15 5P-P071	G7057-11-1NF	061 00
16 5P-P071	G7057-13-NF	061 00
5P-P072	G7056-11-NF	060 00

Figure 30. MS27467T11B35S, MS27467T11B35SA, MS27467T11B35SB, MS27467T11B35SD and 88-488706-93S Connectors (Sheet 1)

**Reference Designation to Backshell Data Index for MS27467T11B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5P-P136	M85049/46W10	070 00
5P-P137	M85049/46W10	070 00
5P-R030	M85049/46W10	070 00
5P-R031	M85049/46W10	070 00
5P-R070	G7056-11-NF	060 00
5P-R120	M85049/46W10	070 00
 17 52J-H088	M85049/46W10	070 00
 4 52P-E154	G7056-11-NF	060 00
 18 52P-H088	M85049/46W10	070 00
 8 52P-H098	M85049/46W10	070 00
 4 52P-H098	M85049/45W10	070 00
52P-J053	M85049/46W10	070 00
52P-J155	M85049/45W10	070 00
 8 52P-L154	M85049/45W10	070 00
 4 52P-L309	M85049/45W10	070 00
52P-R114	G7057-11-1NF	060 00
61P-A246A	M85049/46W10	070 00
 19 61P-J022C	M85049/46W10	070 00
 4 61P-K237	M85049/45W10	070 00
 4 61P-L217	M85049/45W10	070 00
61P-P014C	G7056-11-NF	060 00
61P-R016C	G7056-11-NF	060 00
61P-U045	MS27506B11-1	080 00
61P-V046	MS27506B11-1	080 00
 10 62P-E006C	M85049/46W10	070 00
76P-B023A	G7056-11-NF	060 00
 8 78P-K005	M85049/45W10	070 00
 4 78P-L005	M85049/46W10	070 00
 20 8P-L080	G7056-11-NF	060 00
 21 8P-L080B	G7056-11-NF	060 00
83P-E001B	M85049/46W10	070 00
83P-F002B	M85049/46W10	070 00
84P-G035A	G7056-11-NF	060 00
84P-J104	M85049/45W10	070 00
84P-M029A	M85049/46W10	070 00
 1 161353 THRU 161944.  2 161945 AND UP.  3 163092 AND UP.  4 F/A-18B  5 F/A-18A 163092 AND UP.  6 161353 THRU 161519 BEFORE F18 AFC 27.  7 F/A-18A 161520 AND UP, F/A-18B 161704 THRU 161947, 162836 AND UP.  8 F/A-18A  9 F/A-18A 161353 THRU 161519 AFTER F18 AFC 39.  10 161520 AND UP.  11 F/A-18B 161354 THRU 161360.		

**Figure 30. MS27467T11B35S, MS27467T11B35SA, MS27467T11B35SB,
MS27467T11B35SD and 88-488706-93S Connectors (Sheet 2)**

Reference Designation to Backshell Data Index for MS27467T11B35S Connector (Continued)

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
12 F/A-18A 161353 THRU 161519.		
13 161353 THRU 161357.		
14 161359 AND UP.		
15 161353 THRU 161521.		
16 161522 AND UP.		
17 161353 THRU 161528 AFTER F18 AFC 41.		
18 161702 AND UP.		
19 161925 AND UP; ALSO 161248 THRU 161924 AFTER F18 AFC 57.		
20 161353 THRU 161359 BEFORE F18 AFC 19.		
21 161360 AND UP, ALSO 161353 THRU 161359 AFTER F18 AFC 19.		

Reference Designation to Backshell Data Index for MS27467T11B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22P-E004	M85049/46W10	070 00
5P-B0019	M85049/46W10	070 00
52P-H089	M85049/46W10	070 00
84P-G035B	G7056-11-NF	060 00
1 84P-M029C	M85049/45W10	070 00
2 84P-M029C	M85049/46W10	070 00
1 161520 AND UP; ALSO F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.		
2 F/A-18A 161353 THRU 161519; ALSO F/A-18B 161354 THRU 161360 BEFORE F18 AFC 27.		

Reference Designation to Backshell Data Index for MS27467T11B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-M029D	M85049/46W10	070 00

Reference Designation to Backshell Data Index for MS27467T11B35SD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-P014B	G7056-11-NF	060 00
61P-R016B	G7056-11-NF	060 00
1 84P-M029B	M85049/45W10	070 00
2 84P-M029B	M85049/46W10	070 00
1 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27.		
2 161353 THRU 161519 BEFORE F18 AFC 27.		

Figure 30. MS27467T11B35S, MS27467T11B35SA, MS27467T11B35SB, MS27467T11B35SD and 88-488706-93S Connectors (Sheet 3)

Reference Designation to Backshell Data Index for 88-488706-93S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-L050	G7056-11-NF	060 00

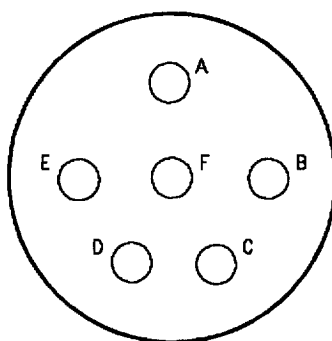
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/56-348	MS27488-22

Figure 30. MS27467T11B35S, MS27467T11B35SA, MS27467T11B35SB,
MS27467T11B35SD and 88-488706-93S Connectors (Sheet 4)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-6)01-CATI

Reference Designation to Backshell Data Index for MS27467T11B98S Connector










REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
10P-P006A	M85049/46W10	070 00
10P-P008	M85049/46W10	070 00
10P-P010	M85049/45W10	070 00
10P-R007A	M85049/46W10	070 00
10P-R011	M85049/46W10	070 00
12P-G005	G7056-11-NF	060 00
12P-R006	G7056-11-NF	060 00
18P-S003	G7056-11-NF	060 00
2P-P011	M85049/45W10	070 00
 22P-S025	G7056-11-1NF	061 00
 22P-S025	G7056-11-1NF	061 00
23P-B002	M85049/46W10	070 00
28P-A017	M85049/46W10	070 00
28P-B018	M85049/46W10	070 00
 34P-P004	G7056-11-NF	060 00
5P-F116	M85049/46W10	070 00
5P-P113	G7056-11-NF	061 00
5P-P151	G7056-11-NF	060 00
 5P-P152	G7056-11-NF	060 00
 5P-P152	G7057-11-1NF	060 00
5P-R114	G7056-11-NF	061 00
5P-T106	M85049/46W10	070 00
61P-B164	M85049/46W10	070 00
61P-F010A	M85049/46W10	070 00
61P-G165	G7057-11-1NF	060 00
 62P-E009K	M85049/46W10	070 00
66P-F001B	M85049/46W10	070 00
7P-T009	M85049/45W10	070 00
 161707 AND UP.		
 161353 THRU 161706.		
 F/A-18A 161353 THRU 163144. F/A-18B		

Figure 31. MS27467T11B98S, MS27467T11B98SA and 88-488707-80S Connector
(Sheet 1)

**Reference Designation to Backshell Data Index for MS27467T11B98S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
4 162889 AND UP.		
5 161353 THRU 162888.		
6 161702 AND UP.		

Reference Designation to Backshell Data Index for MS27467T11B98SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
10P-P006B	M85049/46W10	070 00
10P-R007B	M85049/46W10	070 00

Reference Designation to Backshell Data Index for 88-488707-80S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
25P-H002	M85049/45W10	070 00
1 25P-K004	M85049/45W10	070 00
1 F/A-18B.		

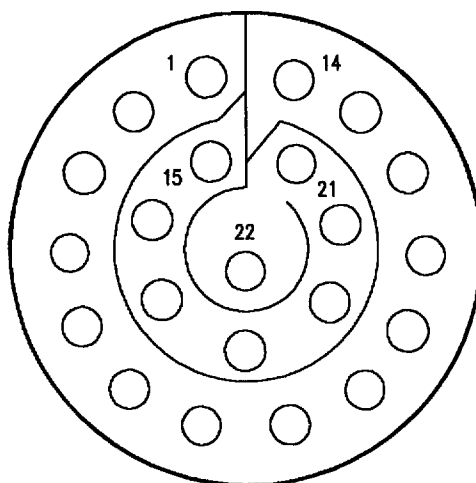
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1 -04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/56-351	MS27488-20

**Figure 31. MS27467T11B98S, MS27467T11B98SA and 88-488707-80S Connector
(Sheet 2)**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(913-22)01-CATI

Reference Designation to Backshell Data Index for MS27467T13B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5P-P145	G7056-13-NF	060 00
5P-R144	G7056-13-NF	060 00
52P-B021	G7056-13-NF	060 00
52P-P035	G7057-13-NF	060 00
52P-R036	G7057-13-NF	060 00
<input type="checkbox"/> 2 52P-R166	M85049/46W12	070 00
<input type="checkbox"/> 1 84P-J122B	M85049/45W12	070 0
<input type="checkbox"/> 3 84P-J122B	M85049/46W12	070 00
<input type="checkbox"/> 1 161520 THRU 161981. <input type="checkbox"/> 2 162445 AND UP. <input type="checkbox"/> 3 161982 AND UP.		

Reference Designation to Backshell Data Index for MS27467T13B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 84P-J122A	M85049/45W12	070 00
<input type="checkbox"/> 2 84P-J122A	M85049/46W12	070 00
<input type="checkbox"/> 1 161520 THRU 161981. <input type="checkbox"/> 2 161982 AND UP.		

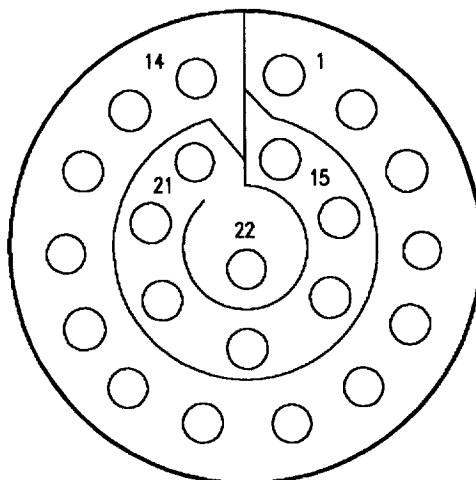
Figure 32. MS27467T13B35P and MS27467T13B35PA Connectors (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-22)01-CATI

Reference Designation to Backshell Data Index for MS27467T13B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1P-C007	M85049/46W12	070 00
1P-C022	M85049/46W12	070 00
6 1P-C145	M85049/46W12	070 00
1P-D008	M85049/46W12	070 00
6 1P-D146	M85049/46W12	070 00
1P-J084	M85049/45W12	070 00
10P-J005	M85049/46W12	070 00
7 10P-L018	M85049/46W12	070 00
19P-J003	M85049/46W12	070 00
22P-A090	M85049/46W12	070 00
8 22P-K170	M85049/46W12	070 00
9 22P-L170	M85049/46W12	070 00
33P-H011	M85049/46W12	070 00
10 5P-E053	M85049/46W12	070 00
10 5P-E053	M85049/45W12	070 00
7 5P-K015	M85049/46W12	070 00
52P-H077B	M85049/46W12	070 00
52P-H079	M85049/45W12	070 00
52P-H081	M85049/46W12	070 00
52P-H084	M85049/45W12	070 00
52P-J076	M85049/45W12	070 00
7 52P-K305	M85049/46W12	070 00
61P-A246B	M85049/46W12	070 00
61P-U011B	G7057-13-NF	060 00
61P-V019B	G7057-13-NF	060 00
61P-W023A	G7057-13-NF	060 00
12 62P-A013A	M85049/45W12	070 00
12 62P-B010A	M85049/45W12	070 00
12 62P-S012A	M85049/46W12	070 00

Figure 33. MS27467T13B35S, MS27467T13B35SA, MS27467T13B35SB, MS27467T13B35SC, MS27467T13B35SD and 88-488714-70S Connectors (Sheet 1)

**Reference Designation to Backshell Data Index for MS27467T13B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
12 62P-T011A	M85049/46W12	070 00
76P-F004A	M85049/46W10	070 00
13 79P-E023	G7057-13-NF	060 00
2 79P-L023	G7056-13-NF	060 00
13 79P-L023	G7057-13-NF	060 00
14 8P-L080A	MS27506B12-2	080 00
13 80P-K023	G7056-13-NF	060 00
4 83P-E005	M85049/46W12	070 00
5 83P-E005	M85049/45W12	070 00
83P-F004	M85049/46W12	070 00
15 84P-C026	M85049/45W12	070 00
16 84P-C026A	MS27669B12	080 00
84P-F004A	M85049/46W12	070 00
84P-F005A	M85049/46W12	070 00
1 84P-M021A	M85049/45W12	070 00
16 84P-M110A	M85049/45W12	070 00
84P-M132	M85049/46W12	070 00
84P-S015A	M85049/45W12	071 00
17 84P-S017B	M85049/46W12	070 00
18 84P-S017B	G7056-13-NF	060 00
84P-T016A	M85049/46W12	071 00
17 84P-T018B	M85049/46W12	070 00
18 84P-T018B	G7056-13-NF	060 00
84P-U019B	G7056-13-NF	060 00
84P-U027A	G7057-13-NF	060 00
84P-V020B	G7056-13-NF	060 00
84P-V028A	G7057-13-NF	060 00
1 161353 THRU 161519 BEFORE F18 AFC 27. 2 F/A-18A 161741 AND UP; ALSO F/A-18A 161353 THRU 161528 AFTER F18 AFC 54. 3 F/A-18A 161702 THRU 161739. 4 161353 THRU 161924. 5 161925 AND UP. 6 162394 AND UP; ALSO 161353 THRU 161987 AFTER F18 AFC 48 7 F/A-18B. 8 F/A-18A 163092 AND UP. 9 F/A-18B 163104 AND UP. 10 F/A-18A 11 161702 AND UP. 12 F/A-18B 161704 AND UP; ALSO 161354 THRU 161360 AFTER F18 AFC 54. 13 161353 THRU 161359 AFTER F18 AFC 19. 14 161353 THRU 161519. 15 161520 AND UP; ALSO 1661353 THRU 161519 AFTER F18 AFC 27.		

**Figure 33. MS27467T13B35S, MS27467T13B35SA, MS27467T13B35SB,
MS27467T13B35SC, MS27467T13B35SD and 88-488714-70S Connectors (Sheet 2)**

**Reference Designation to Backshell Data Index for MS27467T13B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
16 161720 AND UP.		
17 161353 THRU 161719.		

Reference Designation to Backshell Data Index for MS27467T13B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 62P-J008	M85049/46W12	070 00
3 62P-L027	M85049/46W12	070 00
84P-F004B	M85049/46W12	070 00
84P-F005B	M85049/46W12	070 00
1 84P-M021A	M85049/46W12	070 00
4 84P-M021A	M85049/45W12	070 00
1 84P-M021B	M85049/46W12	070 00
4 84P-M021B	M85049/46W12	070 00
84P-S015B	M85049/45-12	071 00
84P-T016B	M85049/45W12	071 00
84P-U013A	M85049/45W12	070 00
84P-U027B	G7057-13-NF	060 00
84P-V014A	M85049/45W12	070 00
84P-V028B	G7057-13-NF	060 00
1 F/A-18B 161520 AND UP; ALSO F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.		
2 161702 AND UP.		
3 F/A-18B 161704 AND UP.		
4 161353 THRU 161360 BEFORE F18 AFC 27.		

Reference Designation to Backshell Data Index for MS27467T13B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-D012B	M85049/46W12	070 00
2 84P-M021A	MS27669B12	080 00
1 84P-M021B	MS27669B12	080 00
4 84P-M021B	MS27669B12	080 00
5 84P-M021C	M85049/45W12	070 00
84P-S015C	M85049/45W12	071 00
2 84P-S017A	M85049/46W12	070 00
3 84P-S017A	G7056-13-NF	060 00
84P-T016C	M85049/45W12	071 00
2 84P-T018A	M85049/46W12	070 00
3 84P-T018A	G7056-13-NF	060 00
84P-U013B	MS27669B12	080 00
84P-U019A	G7056-13-NF	060 00
84P-V014B	MS27669B12	080 00
84P-V020A	G7056-13-NF	060 00

**Figure 33. MS27467T13B35S, MS27467T13B35SA, MS27467T13B35SB,
MS27467T13B35SC, MS27467T13B35SD and 88-488714-70S Connectors (Sheet 3)**

**Reference Designation to Backshell Data Index for MS27467T13B35SB Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 161520 AND UP.		
2 161720 AND UP.		
3 161353 THRU 161719.		
4 F/A-18A 161353 THRU 161519 AFTER F18 AFC 27.		
5 161353 THRU 161519 BEFORE F18 AFC 27.		

Reference Designation to Backshell Data Index for MS27467T13B35SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 84P-M021D	M85049/45W12	070 00
2 84P-M110B	M85049/45W12	070 00
2 84P-M133	M85049/46W12	070 00
84P-S015D	M85049/45W12	07100
84P-T016D	M85049/45W12	07100
84P-U013C	M85049/46W12	070 00
84P-V014C	M85049/45W12	070 00
1 161353 THRU 161360 BEFORE F18 AFC 27.		
1 161361 AND UP; ALSO 161363 THRU 161360 AFTER F18 AFC 27.		

Reference Designation to Backshell Data Index for MS27467T13B35SD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-U011A	G7057-13-NF	060 00
61P-V019A	G7057-13-NF	060 00
84P-D012A	M85049/46W12	070 00
84P-U013D	M85049/46W12	070 00
84P-V014D	M85049/46W12	070 00

Reference Designation to Backshell Data Index for 88-488714-70S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
SP-Y025	G8682-13NF	060 00

**Figure 33. MS27467T13B35S, MS27467T13B35SA, MS27467T13B35SB,
MS27467T13B35SC, MS27467T13B35SD and 88-488714-70S Connectors (Sheet 4)**

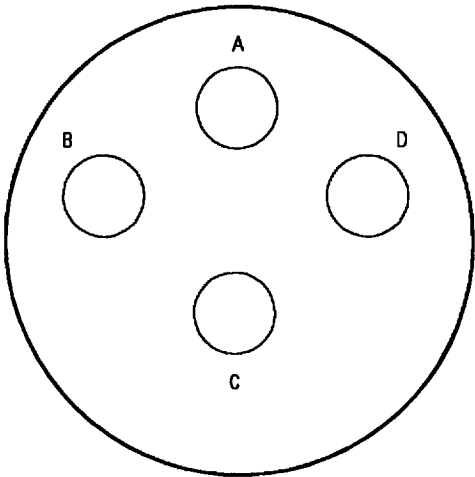
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/56-348	MS27488-22

Figure 33. MS27467T13B35S, MS27467T13B35SA, MS27467T13B35SB,
MS27467T13B35SC, MS27467T13B35SD and 88-488714-70S Connectors (Sheet 5)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(913-4)01-CATI

Reference Designation to Backshell Data Index for MS27467T13B4P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 84P-C092	M85049/45W12	070 00
84P-D093	M85049/45W12	070 00
<div>2</div> 84P-E092	M85049/45W12	070 00
<div>1</div> F/A-18A		
<div>2</div> F/A-18B		

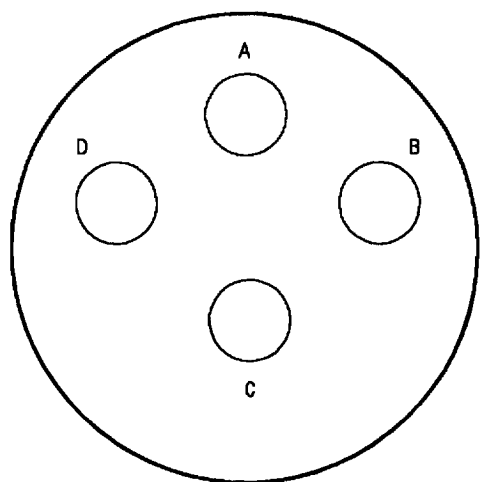
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU D	7/32	M39029/58-364	MS27488-16

Figure 34. MS27467T13B4P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-4)01-CATI

Reference Designation to Backshell Data Index for MS27467T13B4S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-D086	M85049/46W12	070 00

Reference Designation to Backshell Data Index for MS27467T13B4SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-C085	M85049/46W12	070 00

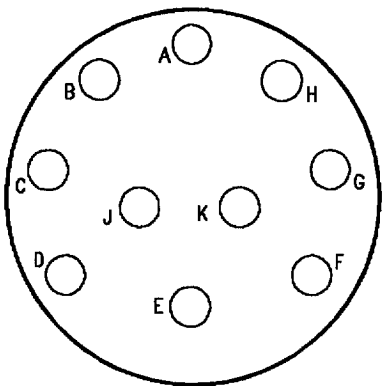
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU D	7/32	M39029/56-352	MS27488-16

Figure 35. MS27467T13B4S and MS27467T13B4SA Connectors



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(913-10)01-CATI

Reference Designation to Backshell Data Index for MS27467T13B98P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-M071	M85049/46W12	070 00
52P-N072	M85049/46W12	070 00

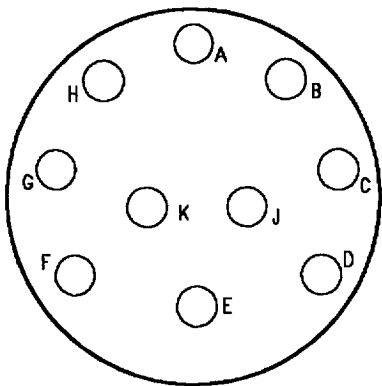
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU K	7/32	M39029/58-363	MS27488-20

Figure 36. MS27467T13B98P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-10)01-CATI

Reference Designation to Backshell Data Index for MS27467T13B98S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
28P-B015	M85049/46W12	070 00
28P-B016	M85049/46W12	070 00
34P-G003	G7056-13-NF	060 00
5P-B007	G7056-13-NF	060 00
52P-P064A	G7057-13-NF	060 00
52P-R066A	G7057-13-NF	060 00
52P-U152	G7057-13-NF	060 00
52P-V153	G7057-13-NF	060 00
61P-J022A	M85049/46W12	070 00

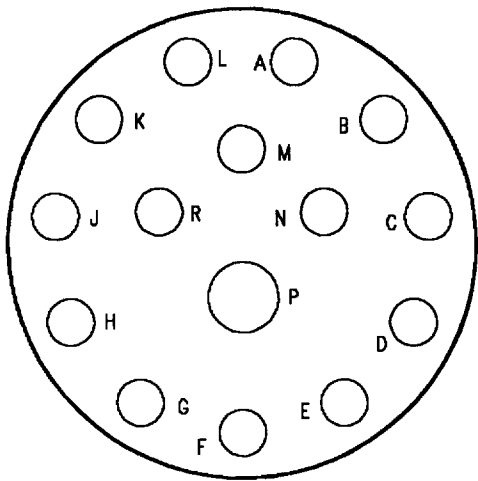
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU K	7/32	M39029/56-351	MS27488-20

Figure 37. MS27467T13B98S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-15)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B15S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22P-M086	M85049/46W14	070 00

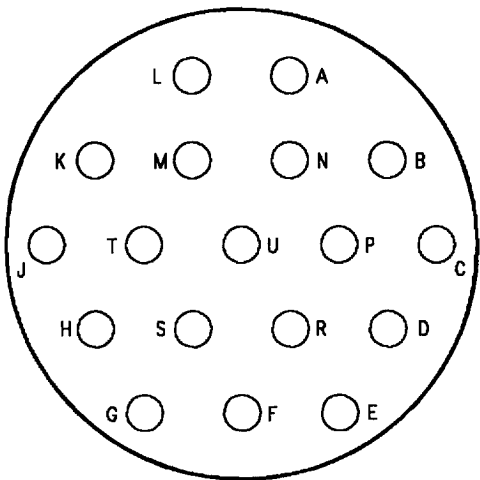
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (RED)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (RED)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N AND R.	7/32	M39029/56-351	MS27488-20
P	7/32	M39029/56-352	MS27488-16

Figure 38. MS27467T15B15S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-18)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B18S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W258	G7057-9-1NF	060 00

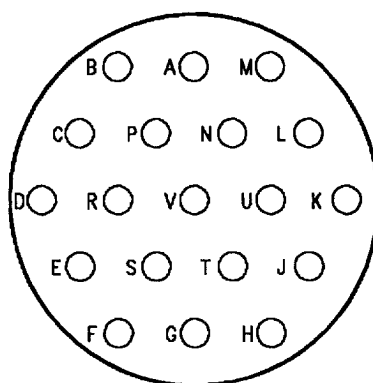
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H,J THRU N, P, R THRU U	7/32	M39029/56-351	MS27488-20

Figure 39. MS27467T15B18S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(914-19)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B19P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-C033	M85049/45W14	070 00
1 F/A-18B		

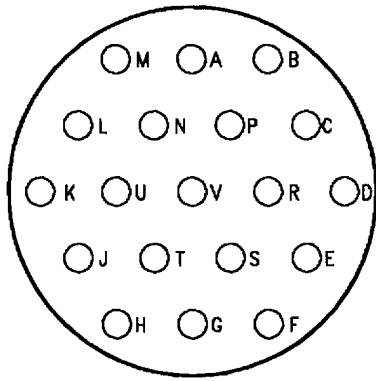
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P R THRU V	7/32	M39029/58-363	MS27488-20

Figure 40. MS27467T15B19P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(814-19)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B19S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22P-M099	M85049/45W14	070 00

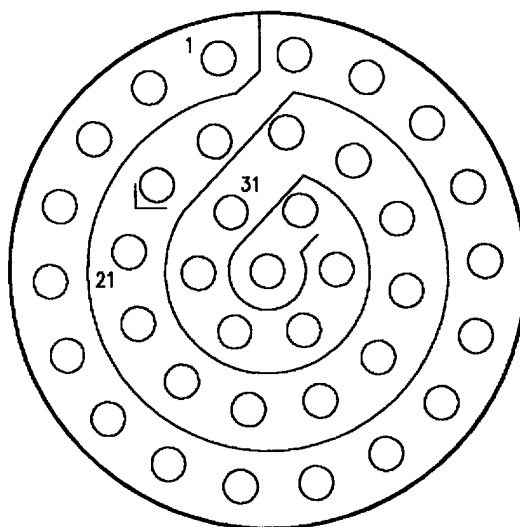
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU V	7/32	M39029/56-351	MS27488-20

Figure 41. MS27467T15B19S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(915-37)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1P-P001	G7056-15-NF	061 00
1P-R002	G7056-15-NF	061 00
1 2P-N010B	M85049/46W14	070 00
2 2P-N010B	M85049/46W14	070 00
3 52P-D026D	M85049/45W14	070 00
52P-D092C	M85049/46W14	070 00
52P-M069	M85049/46W14	070 00
52P-N070	M85049/46W14	070 00
52P-P123	G7057-15-NF	060 00
61P-A020A	M85049/46W14	070 00
61P-D033	M85049/46W14	070 00
4 61P-F034	MS27506B15-1	080 00
61P-J022B	M85049/46W14	070 00
5 62P-E009L	M8049/46W14	070 00
83P-E001D	M85049/46W14	070 00
83P-F002D	M85049/46W14	070 00
84P-P067	G7056-15-NF	060 00
84P-R068	G7056-15-NF	060 00
1 161353 THRU 161360 BEFORE F18 AFC 27. 2 F/A-18A 161520 AND UP, F/A-18B 161704 THRU 161947, 162836 AND UP. 3 161353 THRU 161359 4 F/A-15A 5 161702 AND UP.		

Figure 42. MS27467T15B35P and MS27467T15B35PA Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27467T15B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
83P-E001E	M85049/46W14	070 00
83P-F002E	M85049/46W14	070 00
<div>1</div> F/A-18D 163986 AND UP		

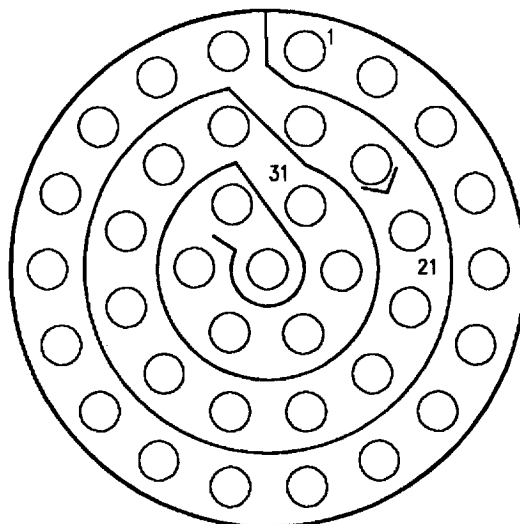
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/58-360	MS27488-22

Figure 42. MS27467T15B35P and MS27467T15B35PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-37)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
12P-H008	M85049/46W14	070 00
3 2P-M010A	M85049/46W14	070 00
4 2P-N010A	M85049/46W14	070 00
5 52P-C161	M85049/46W14	070 00
6 52P-D026D	M85049/45W14	070 00
2 52P-H075	MS27669B14	080 00
1 52P-H075	M85049/45W14	070 00
1 52P-J080	M85049/45W14	070 00
7 52P-K303	M85049/45W14	070 00
52P-P119	G7057-15NF	061 00
52P-R120	G7057-15NF	061 00
7 61P-F034	G7057-15NF	060 00
8 62P-B014A	MS27669B14	080 00
8 62P-E009M	M85049/45W14	070 00
67P-J002	M85049/46W14	070 00
7 7P-K032	M85049/46W14	070 00
9 7P-L032	M85049/46W14	070 00
7P-S036A	M85049/45W14	070 00
70P-F001A	M85049/46W14	070 00
76P-H009D	G7056-15-NF	060 00
7 76P-K032	M85049-45W14	070 00
7 8P-L098	M85049/46W14	070 00
7 84P-E094	M85049/46W14	070 00
84P-F006A	M85049/46W14	070 00
84P-F007A	M85049/46W14	070 00
7 84P-F095	M85049/45W14	070 00
84P-P060	G7057-15NF	060 00
84P-R064	G7057-15NF	060 00
84P-R065	G7057-15NF	060 00

Figure 43. MS27467T15B35S, MS27467T15B35SA, MS27467T15B35SB, MS27467T15B35SC and MS27467T15B35SD Connectors (Sheet 1)

**Reference Designation to Backshell Data Index for MS27467T15B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
85P-F007	M85049/46W14	070 00
85P-G003A	G7056-15-NF	060 00
9P-P005	M85049/45W14	070 00
<p>1 161353 thru 161715</p> <p>2 161716 AND UP.</p> <p>3 161353 THRU 161519 BEFORE F18 AFC 27.</p> <p>4 F/A-18A 161520 AND UP; F/A-18B 161704 THRU 161947, 162836 AND UP.</p> <p>5 162394 AND UP; ALSO 161353 THRU 161987 AFTER F18 AFC 48.</p> <p>6 161360 AND UP.</p> <p>7 F/A-18B</p> <p>8 161702 AND UP.</p> <p>9 F/A-18A</p>		

Reference Designation to Backshell Data Index for MS27467T15B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5P-H027	M85049/45W14	070 00
52P-H077A	M85049/46W14	070 00
8P-J002	M85049/45W14	070 00
84P-F006B	M85049/46W14	070 00
84P-F007B	M85049/46W14	070 00
84P-U049	M85049/45W14	070 00
84P-V050	M85049/45W14	070 00

Reference Designation to Backshell Data Index for MS27467T15B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1P-H004	M85049/46W14	070 00
84P-H003A	M85049/46W14	070 00

Reference Designation to Backshell Data Index for MS27467T15B35SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-H003B	M85049/46W14	070 00

Reference Designation to Backshell Data Index for MS27467T15B35SD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-H091	M85049/46W14	070 00

**Figure 43. MS27467T15B35S, MS27467T15B35SA, MS27467T15B35SB,
MS27467T15B35SC and MS27467T15B35SD Connectors (Sheet 2)**

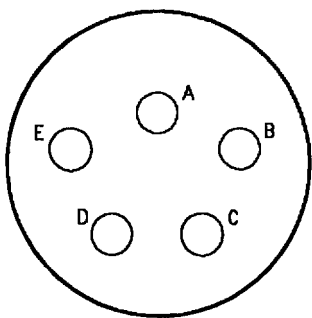
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/56-348	MS27488-22

Figure 43. MS27467T15B35S, MS27467T15B35SA, MS27467T15B35SB,
MS27467T15B35SC and MS27467T15B35SD Connectors (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-5)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B5S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 20P-K006	G7056-15-NF	060 00
 F/A-18A		

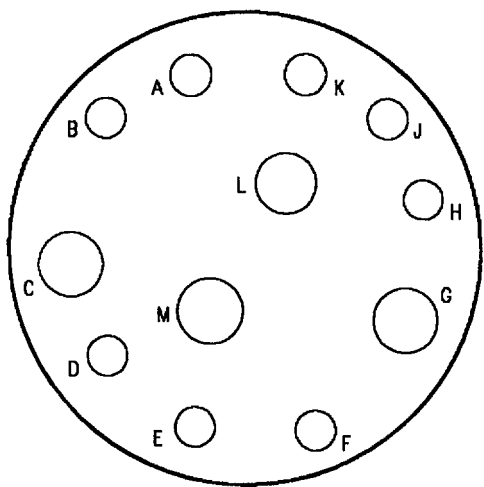
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU E	5/32	M39029/56-352	MS27488-16

Figure 44. MS27467T15B5S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(915-12)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B97P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
7P-S036B	G7056-15NF	060 00
7P-S036C	G7056-15NF	060 00

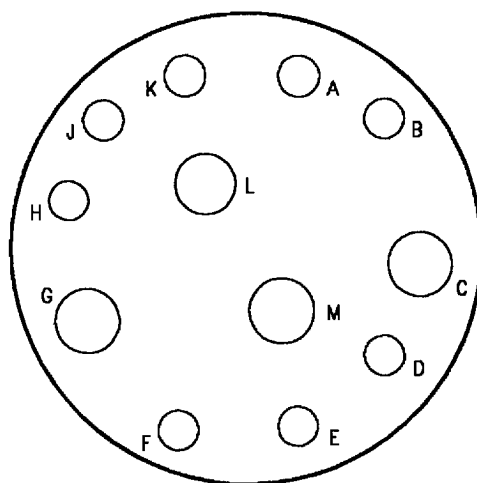
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-15A
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A AND B, D, F, AND H, J AND K	7/32	M39029/58-363	MS27488-20
C, G, L AND M	7/32	M39029/58-364	MS27488-20

Figure 45. MS27467T15B97P Connector (Sheet 1)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(815-12)01-CATI

Reference Designation to Backshell Data Index for MS27467T15B97S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-A020B	M85049/46W14	070 00
61P-W023C	G7057-15NF	060 00
7P-S037	G7057-15NF	060 00
7P-T038	G7057-15NF	060 00

Reference Designation to Backshell Data Index for MS27467T15B97SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-D008	M85049/46W14	070 00

Table 1. Tool Data

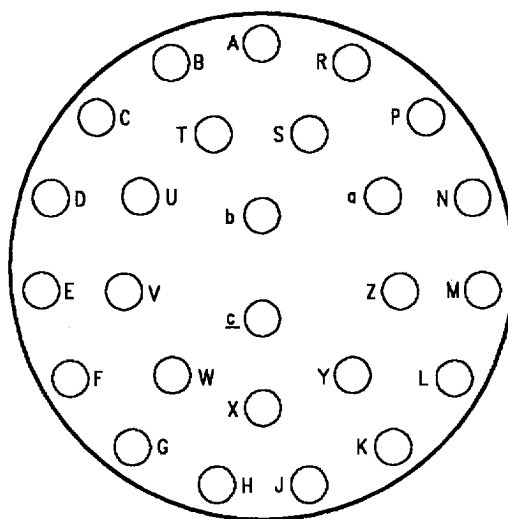
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2

Figure 46. MS27467T15B97S and Ms27467T15B97SA Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A AND B, D THRU F, AND H, J AND K	7/32	M39029/56-351	MS27488-20
C, G, L AND M	7/32	M39029/56-352	MS27488-16

Figure 46. MS27467T15B97S and MS27467T15B97SA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(917-26)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B26P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-Z167	G7057-17-NF	060 00

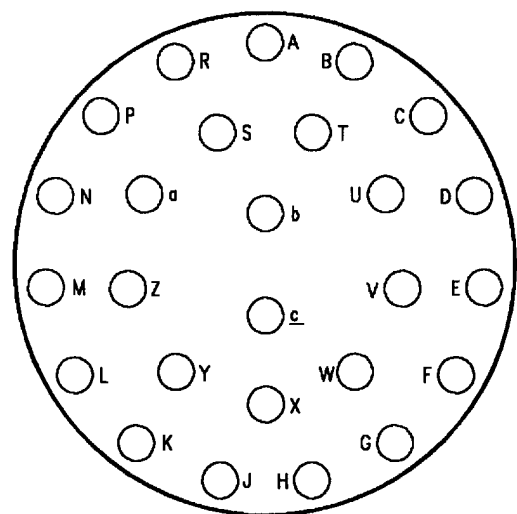
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N AND P, R THRU Z, a THRU c	7/32	M39029/58-363	MS27488-20

Figure 47. MS27467T17B26P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(817-25)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B26S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
13P-D003	M85049/46W16	070 00
 61P-R167	M85049/46W16	070 00
61P-W097A	G7057-13-NF	060 00
61P-Z105A	G7057-17-NF	060 00
 F/A-18A F/A-18B 161354 THRU 161947, 162836 AND UP.		

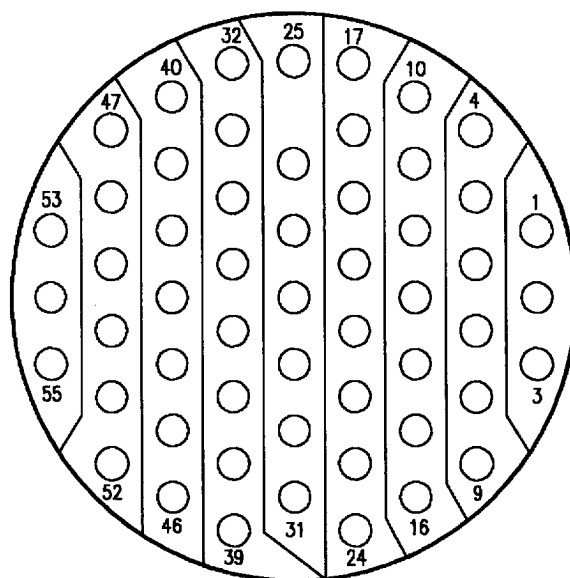
Table 1.Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, and a THRU c	7/32	M39029/56-351	MS27488-20

Figure 48. MS27467T17B26S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-55)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 52P-D026A 61P-Y287 84P-M051 84P-N052	M85049/45W16 G7057-17-NF M85049/46W16 M85049/46W16	070 00 060 00 070 00 070 00
<input type="checkbox"/> 1 161360 AND UP.		

Reference Designation to Backshell Data Index for MS27467T17B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 5P-G024 <input type="checkbox"/> 2 52P-D024D	None M85049/46W16	None 070 00
<input type="checkbox"/> 1 161360 AND UP. <input type="checkbox"/> 2 161353 THRU 161359		

Figure 49. MS27467T17B35P and MS27467T17B35PA Connectors (Sheet 1)

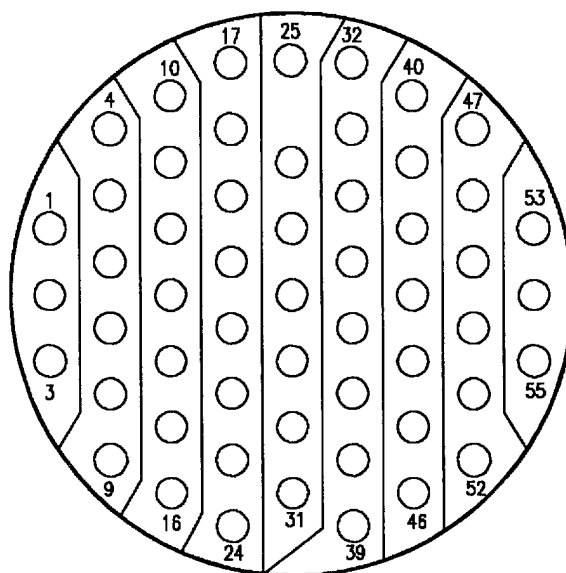
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (YELLOW)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/58-360	MS27488 22

Figure 49. MS27467T17B35P and MS27467T17B35PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-55)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22P-D002A	M85049/46W16	070 00
24P-P011	G7056-17-NF	060 00
4P-R023	G7056-17-NF	060 00
5P-F014B	M85049/46W16	070 00
5P-H013	M85049/46W16	070 00
52P-C159F	M85049/45W16	070 00
1 52P-F160	M85049/45W16	070 00
2 52P-F160	M85049/46W16	070 00
52P-H087	M85049/46W16	070 00
52P-J078	M85049/45W16	070 00
52P-U150	G7057-17-NF	060 00
52P-V151	G7057-17-NF	060 00
66P-F001C	M85049/46W16	070 00
8P-J042	M85049/45W16	070 00
8P-L001A	M85049/45W16	070 00
3 8P-L097A	M85049/46W16	070 00
3 8P-L127	M85049/46W16	070 00
4 84P-J037	G7057-21-NF	060 00
5 84P-J037	G7057-17-NF	060 00
7 84P-L096	G7057-17-NF	060 00
6 84P-M021A	M85049/45W12	070 00
84P-P059	G7057-17-NF	060 00
1 F/A-18B 161704 AND UP		
2 F/A-18C 164704 AND UP		

Figure 50. MS27467T17B35S and MS27467T17B35SA Connectors (Sheet 1)

**Reference Designation to Backshell Data Index for MS27467T17B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 3 F/A-18B		
<input type="checkbox"/> 4 161353 THRU 161519 BEFORE F18 AFC 27.		
<input type="checkbox"/> 5 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27		
<input type="checkbox"/> 6 161353 THRU 161360 BEFORE F18 AFC 27.		
<input type="checkbox"/> 7 F/A-18B 161704 AND UP		

Reference Designation to Backshell Data Index for MS27467T17B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22P-D002B	M85049/46W16	070 00
5P-F014A	M85049/46W16	070 00
<input type="checkbox"/> 1 84P-C031	M85049/45W16	070 00
84P-C034	M85049/45W16	070 00
<input type="checkbox"/> 1 84P-D032	M85049/45W16	070 00
84P-D033	M85049/46W16	070 00
<input type="checkbox"/> 1 F/A-18A		

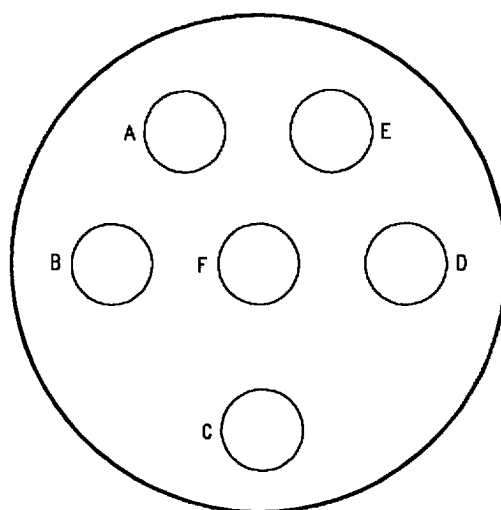
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/56-348	MS27488-22

Figure 50. MS27467T17B35S and MS27467T17B35SA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(917-6)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B6P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
6 1P-C072	M85049/45W16	070 00
5 1P-D035	M85049/46W16	070 00
4 1P-D035	M85049/46W16	070 00
5 1P-D035B	M85049/46W16	070 00
7 20P-L013	G7056-17-NF	060 00
22P-G108	G7056-17-NF	060 00
1 52P-C159D	M85049/46W16	070 00
8 52P-D024B	M85049/46W16	070 00
1 161353 THRU 161944. 2 161702 THRU 161987 BEFORE F18 AFC 48. 3 162394 AND UP; ALSO 161702 THRU 161987 AFTER F18 AFC 48. 4 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 49. 5 161353 THRU 161528 BEFORE F18 AFC 49. 6 161353 THRU 161528 AFTER F18 AFC 49 AND 161702 THRU 161987 BEFORE F18 AFC 48. 7 F/A-18B 8 161360 AND UP.		

Reference Designation to Backshell Data Index for MS27467T17B6PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-C159D	M85049/46W16	070 00
1 161353 THRU 161359.		

Figure 51. MS27467T17B6P, MS27467T17B6PA and MS27467T17B6PB Connectors
(Sheet 1)

Reference Designation to Backshell Data Index for MS27467T17B6PB Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-D024E	M85049/46W16	070 00
 161353 THRU 161359.		

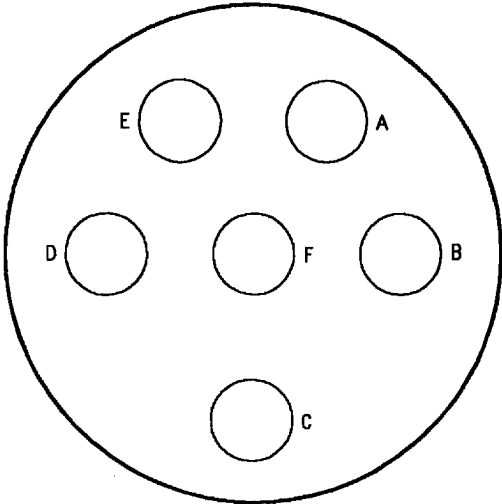
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-12-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/58-365	MS27488-12

Figure 51. MS27467T17B6P, MS27467T17B6PA and MS27467T17B6PB Connectors
(Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(817-5)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B6S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 1P-A153	M85049/46W16	070 00
2 20P-E012	G7056-17-NF	060 00
52P-C057B	M85049/46W16	070 00
52P-C159C	M85049/46W16	070 00
3 52P-D026B	M85049/46W16	070 00
52P-D092A	M85049/46W16	070 00
1 162394 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 49 AND, 161702 THRU 161987 AFTER F18 AFC 48.		
2 F/A-18B.		
3 161353 THRU 161359.		

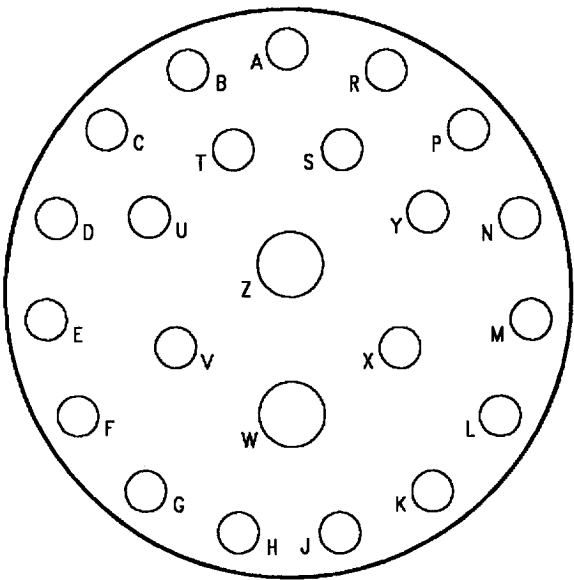
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-12-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/56-353	MS27488-12

Figure 52. MS27467T17B6S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(917-23)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B99P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-P117	G7057-17-NF	060 00

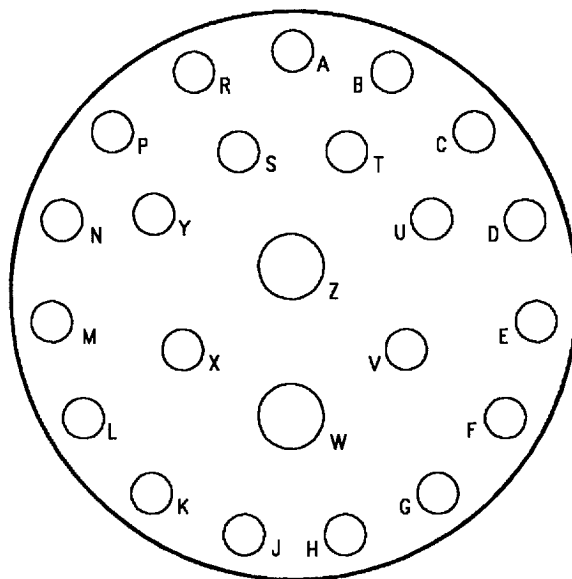
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU V, X, Y.	7/32	M39029/58-363	MS27488-20
W AND Z	7/32	M39029/58-364	MS27488-16

Figure 53. MS27467T17B99P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-23)01-CATI

Reference Designation to Backshell Data Index for MS27467T17B99S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
68P-E001C	M85049/46W16	070 00
84P-F001F	M85049/46W16	070 00
84P-F002F	M85049/46W16	070 00

Reference Designation to Backshell Data Index for MS27467T17B99SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1P-C072A	M85049/46W16	070 00
1P-D035A	M85049/46W16	070 00
84P-F001P	M85049/46W16	070 00
84P-F002P	M85049/46W16	070 00
161353 THRU 161519 BEFORE F18 AFC 49.		

Figure 54. MS27467T17B99S and MS27467T17B99SA Connectors (Sheet 1)

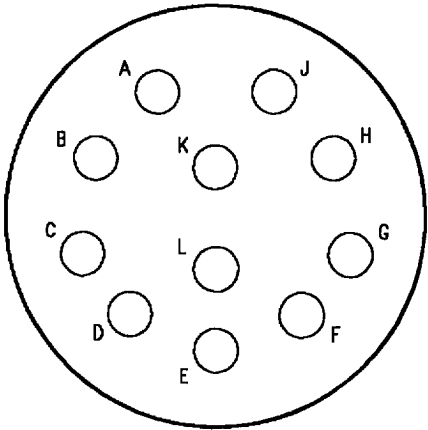
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Yellow)	DRK105-22-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F, H, J THRU N, P, R THRU V, X, Y	7/32	M39029/56-351	MS27488-20
W AND Z	7/32	M39029/56-352	MS27488-16
G	5/32	M39029/56-348	MS27488-22

Figure 54. MS27467T17B99S and MS27467T17B99SA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-11)01-CATI

Reference Designation to Backshell Data Index for MS27467T19B11P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-D092B	M85049/46W18	070 00

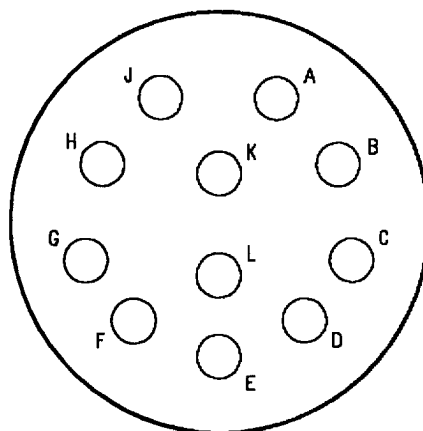
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M2252011-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU L	7/32	M39029/58-364	MS27488-16

Figure 55. MS27467T19B11P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-11)01-CATI

Reference Designation to Backshell Data Index for MS27467T19B11S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-P163	M85049/46W18	070 00
66P-F001D	M85049/46W18	070 00

Reference Designation to Backshell Data Index for MS27467T19B11SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-U015	M85049/45W18	070 00
52P-V014	M85049/45W18	070 00

Reference Designation to Backshell Data Index for MS27467T19B11SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-U017	M85049/45W18	070 00
52P-V016	M85049/45W18	070 00

Table 1. Tool Data For Wired Contact

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Figure 56. MS27467T19B11S, MS27467T11B35SA and MS27467T19B11SC Connectors (Sheet 1)

Table 2. Contact Data For Wired Contact





CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
	7/32	M39029/56-352	MS27488-16
 For power contact designation see work packages in A1-F18AC-WRM-010 through A1-F18AC-WRM-070. Power contacts are non coaxial or triaxial contact.			

Table 3. Tool Data For Coax Contact

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01

Table 4. Contact Data For Coax Contact

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
	See Figure 57	M39029/77-428	MS27488-16
 For coax contact designation see work packages in A1-F18AC-WRM-010 through A1-F18AC-WRM-070. Coax contacts are identified by wire type use and parts callout in the parts list. Contact part number M39029/77-16A has been superseded by M39029/77-428.			

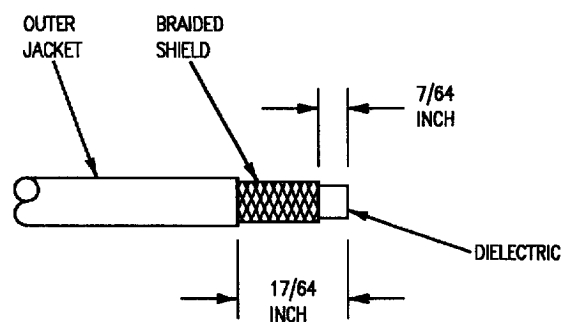
**Figure 56. MS27467T19B11S, MS27467T11B35SA and MS27467T19B11SC
Connectors (Sheet 2)**



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

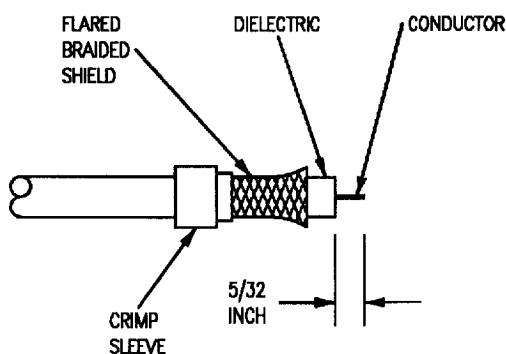
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

1. Using 45-097 coaxial stripper strip cable to dimension specified.



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2. Slide crimp sleeve over cable. Flare braided shield and trim dielectric to dielectric to dimension specified.



F/A-18-WRM-(302-2)01-CATI

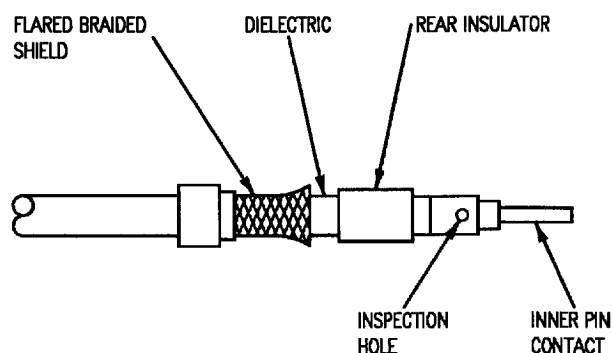
Figure 57. M39029/77-428 Coaxial Assembly Procedure (Sheet 1)

3. Slide rear insulator over conductor until it butts against dielectric.

NOTE

Conductor should be visible in contact inspection hole.

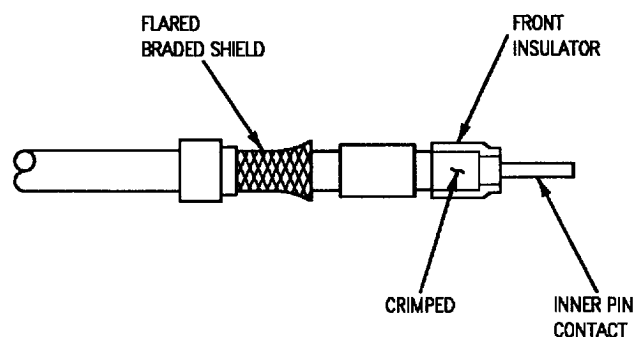
4. Slide inner pin contact over conductor until it butts against rear insulator.



F/A-18-WRM-(302-3)01-CATI

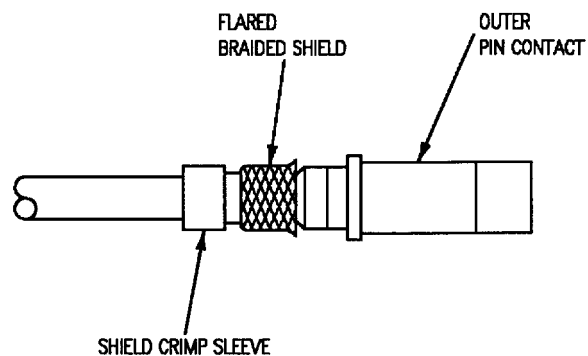
5. Crimp inner pin contact using MS22520/2-01 crimp tool and K332 positioner.

6. If front insulator is not seated inside outer contact, slide front insulator over inner pin contact. If it is seated inside outer contact, proceed to step 7.



F/A-18-WRM-(302-4)01-CATI

7. Slide outer pin contact over inner pin contact and under cable shield until contact is seated.



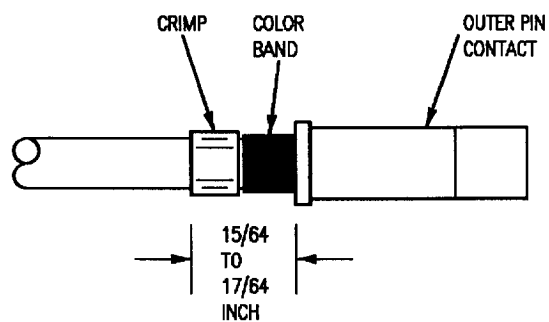
F/A-18-WRM-(302-5)01-CATI

Figure 57. M39029/77-428 Coaxial Assembly Procedure (Sheet 2)

8. Fold shield forward over outer pin contact.
Slide crimp sleeve over shield.

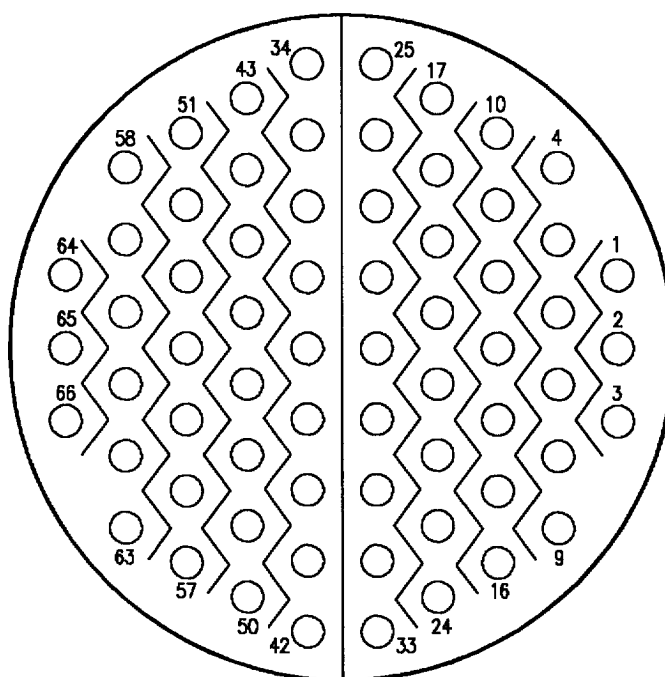
9. Crimp sleeve using M22520/4-1 crimp tool and
M22520/4-02 positioner.

10. Rotate assembly 45 degrees and crimp a se-
cond time.



F/A-18-WRM-(302-6)01-CATI

Figure 57. M39029/77-428 Coaxial Assembly Procedure (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-66)01-CAT I

Reference Designation to Backshell Data Index for MS27467T19B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22P-F096 52P-G022	M85049/45W8 G7056-19-NF	070 00 060 00
F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.		

Reference Designation to Backshell Data Index for MS27467T19B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-F001E 84P-F002E	G7056-19-NF G7056-19-NF	060 00 060 00

Reference Designation to Backshell Data Index for MS27467T19B35PB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-F001K 84P-F002K	G7056-19-NF G7056-19-NF	060 00 060 00

Figure 58. MS27467T19B35P, MS27467T19B35PA and MS27467T19B35PB Connectors (Sheet 1)

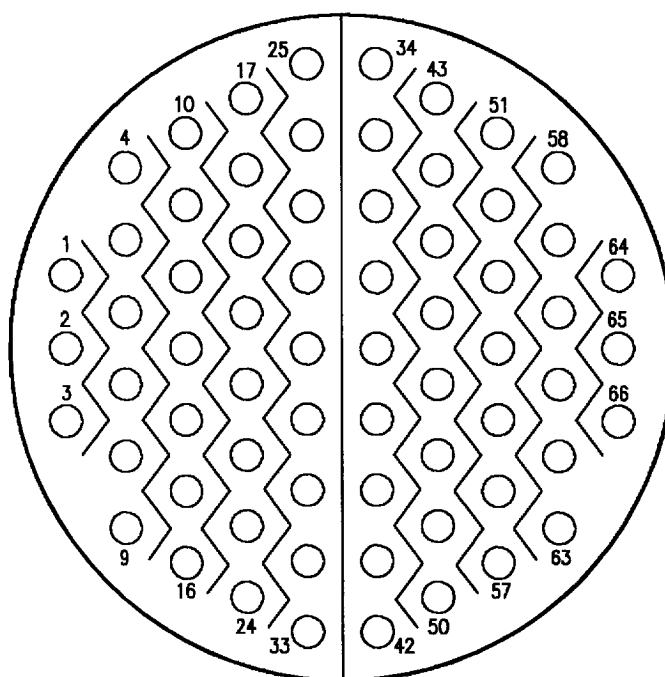
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 66	5/32	M39029/58-360	MS27488-22

Figure 58. MS27467T19B35P, MS24767T19B35PA and MS27467T19B35PB
Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-66)01-CATI

Reference Designation to Backshell Data Index for MS27467T19B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
3P-H001	M85049/46W18	070 00
1 3P-K002	M85049/46W18	070 00
52P-N118A	M85049/46W18	070 00
52P-U019	M85049/45W18	070 00
52P-V020	M85049/45W18	070 00
84P-F001C	G7056-19-NF	060 00
84P-F002C	G7056-19-NF	060 00
1 F/A-18B		

Reference Designation to Backshell Data Index for MS27467T19B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-N118B	M85049/46W18	070 00

Reference Designation to Backshell Data Index for MS27467T19B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-U013	M85049/45W18	070 00
52P-V012	M85049/45W18	070 00

Figure 59. MS27467T19B35S, MS27467T19B35SA, MS27467T19B35SB and MS27467T19B35SC Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27467T19B35SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-F001M	G7056-19-NF	060 00
84P-F002M	G7056-19-NF	060 00

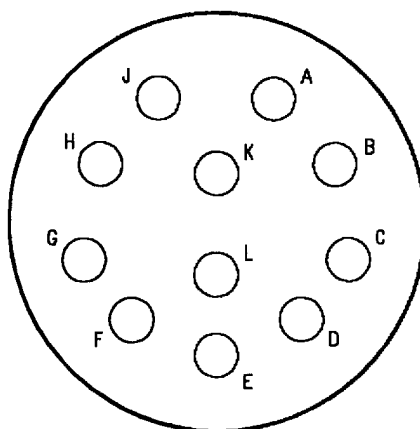
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 66	5/32	M39029/56-348	MS27488-22

Figure 59. MS27467T19B35S, MS27467T19B35SA, MS27467T19B35SB and MS27467T19B35SC Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-11)01-CATI

Reference Designation to Backshell Data Index for MS27467T21B11S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 1P-A138	M85049/46W20	070 00
22P-G056	G7056-21-NF	060 00
52P-C057A	M85049/46W20	070 00
52P-C159A	M85049/46W20	070 00
52P-C159B	M85049/46W20	070 00
52P-D024A	M85049/46W20	070 00
2 52P-D026A	M85049/45W20	070 00
3 52P-D026B	M85049/45W20	070 00
1 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 49.		
2 161353 thru 161359.		
3 161360 AND UP.		

Reference Designation to Backshell Data Index for MS27467T21B11SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-D024B	M85049/46W20	070 00
1 161353 THRU 161359.		

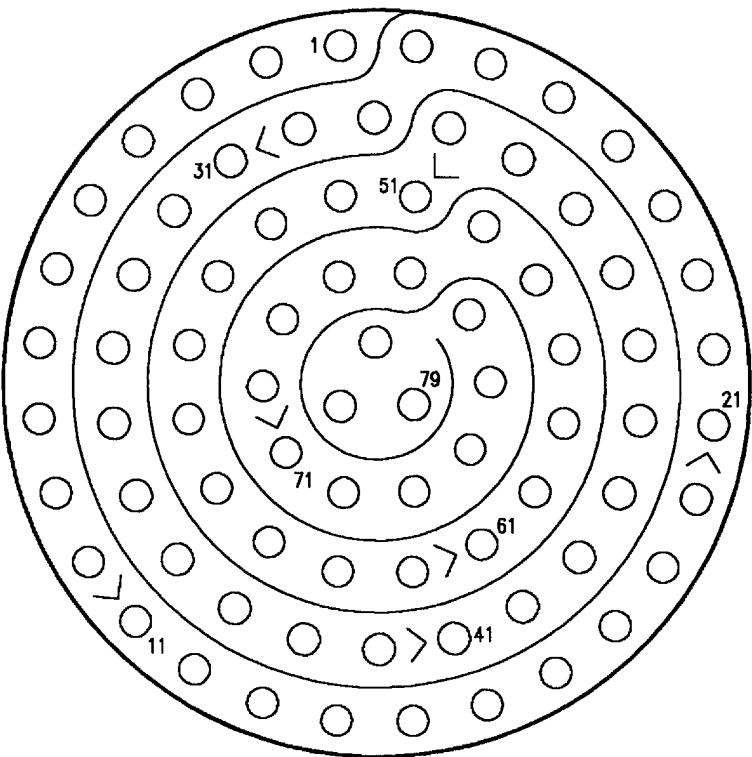
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-12-2

Figure 60. MS27467T21B11S and MS27467T21B11SA Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU L	7/32	M39029/56-353	MS27488-12



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(921-79)01-CATI

Reference Designation to Backshell Data Index for MS27467T21B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-B023	M85049/45W20	070 00
1 52P-D024D	M85049/46W20	070 00
52P-G051	G7066-21-NF	060 00
2 62P-E006A	M85049/46W20	070 00
84P-S055	M85049/45W20	070 00
1 161360 AND UP.		
2 161702 AND UP.		

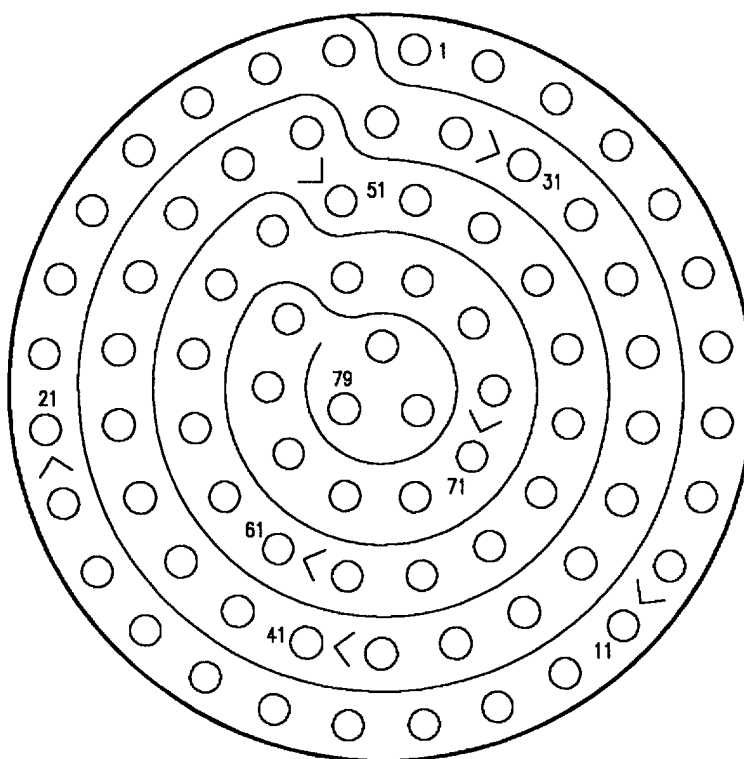
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 61. MS27467T21B35P Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(821-79)01-CATI

Reference Designation to Backshell Data Index for MS27467T21B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 52P-C032	M85049/45W20	070 00
52P-F030	M85049/46W20	070 00
2 52P-F308	M85049/45W20	070 00
3 62P-E006B	M85049/46W20	070 00
82P-F001B	G7056-21-NF	060 00
1 84P-C031	M85049/45W20	070 00
2 84P-D032	M85049/45W20	070 00
85P-F001B	M85049/46W20	070 00
1 F/A-18B 161354 THRU 161924		
2 F/A-18B		
3 161702 AND UP.		

Figure 62. MS27467T21B35S and MS27467T21B35SA Connector (Sheet 1)

Reference Designation to Backshell Data Index for MS27467T21B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-F010B □ 1 ▸ 84P-C031	M85049/46W20 M85049/45W20	070 00 070 00
□ 1 ▸ F/A-18D		

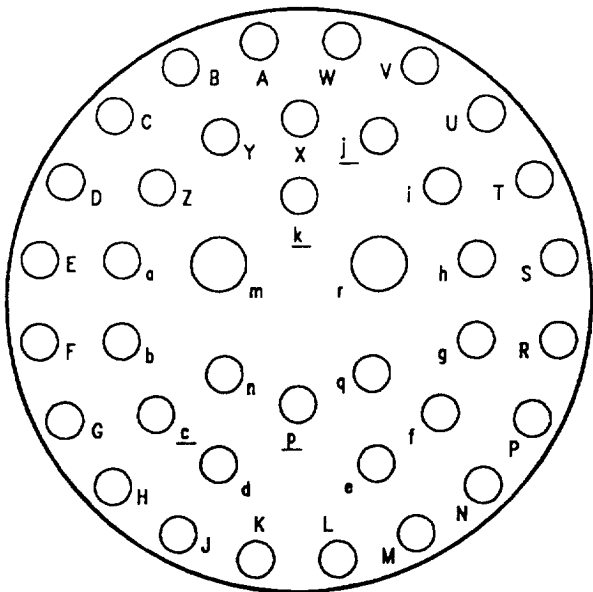
Table 1.Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	5/32	M39029/56-348	MS2748-22

Figure 62. MS27467T21B35S and MS27467T21B35SA Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(921-39)01-CATI

Reference Designation to Backshell Data Index for MS27467T21B39P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-R116	G7057-21-NF	060 00

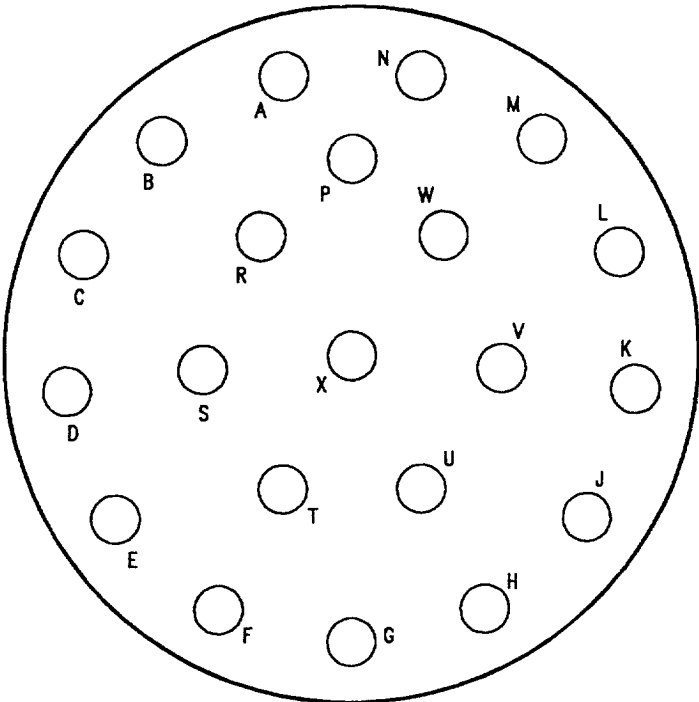
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969114-02
Removal Tool (White)	M81969114-02
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z	5/32	M39029/58-363	MS27488-20
a THRU k, n, p AND q. m & r.	5/32	M39029/58-364	MS27488-16

Figure 63. MS27467T21B39P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-21)01-CATI

Reference Designation to Backshell Data Index for MS27467T23B21P Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-F001	M85049/46W22	070 00
 F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP.		

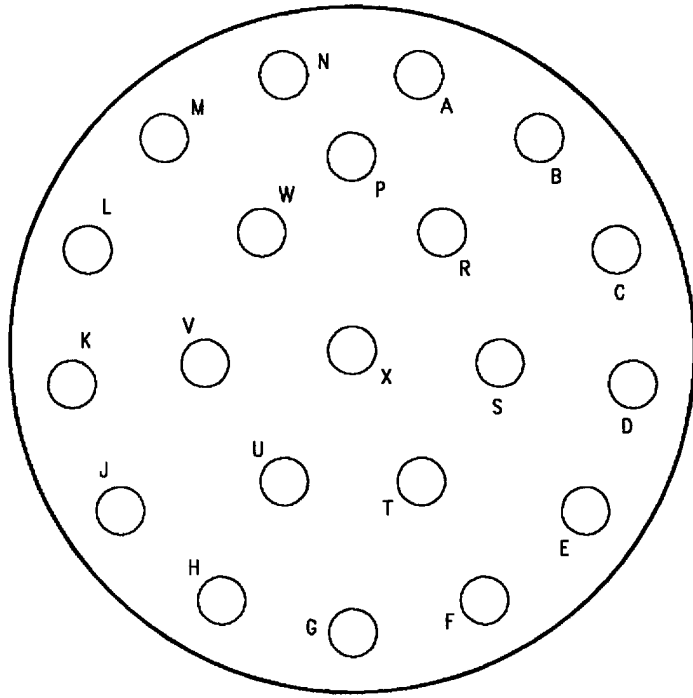
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU X	7/32	M39029/58-364	MS27488-16

Figure 64. MS27467T23B21P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-21)01-CATI

Reference Designation to Backshell Data Index for MS27467T23B21S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
66P-F001A	M85049/46W22	070 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU X	7/32	M39029/56-352	MS27488-16

Figure 65. MS27467T23B21S Connector (Sheet 1)

Table 3. Tool Data For Coax Contact

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M2252012-01
Positioner (Center Contact)	K532
Crimping Tool Handle (Outer Ferrule)	M22520/4-01
Die Set (Outer Ferrule)	M22520/4-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03

Table 4. Contact Data For Coax Contact



CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
	See Figure 66	M39029/77-428	MS27488-16
 For coax contact designation see work packages in A1-F18AC-WRM-010 through A1-F18AC-WRM-070. Coax contacts are identified; by wire type use and parts callout in the parts list. Contact part number M39029/77-16A has been superseded by M39029/77-428.			

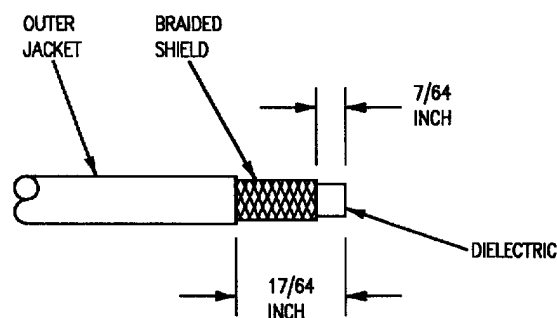
Figure 65. MS27467T23B21S Connector (Sheet 2)



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WKP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

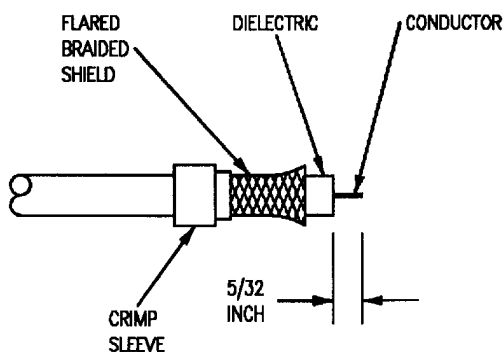
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

1. Using 45-097 coaxial stripper strip cable to dimension specified.



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2. Slide crimp sleeve over cable. Flare braided shield and trim dielectric to dimension specified.



F/A-18-WRM-(302-2)01-CATI

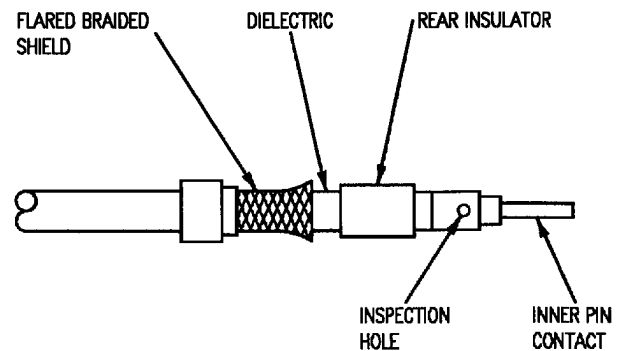
Figure 66. M39029/ 77-428 Coaxial Assembly Procedure (Sheet 1)

3. Slide rear insulator over conductor until it butts against dielectric.

NOTE

Conductor should be visible in contact inspection hole.

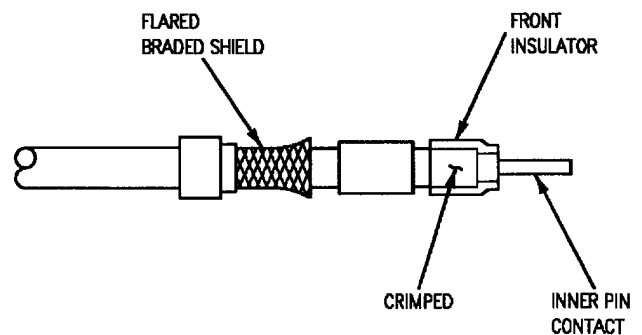
4. Slide inner pin contact over conductor until it butts against rear insulator.



F/A-18-WRM-(302-3)01-CATI

5. Crimp inner pin contact using MS22520/2-01 crimp tool and K532 positioner.

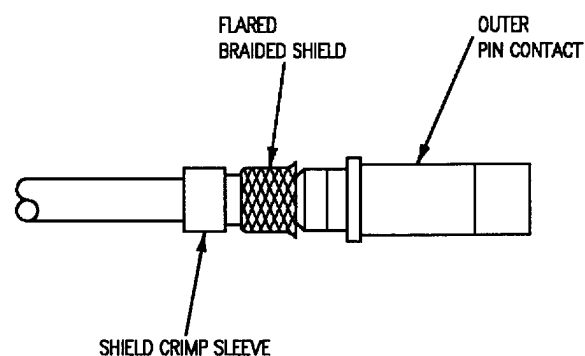
6. If front insulator is not seated inside outer contact, slide front insulator over inner pin contact. If it is seated inside outer contact, proceed to step 7.



F/A-18-WRM-(302-4)01-CATI

Figure 66. M39029/ 77428 Coaxial Assembly Procedure (Sheet 2)

7. Slide outer pin contact over inner pin contact and under cable shield until contact is seated.

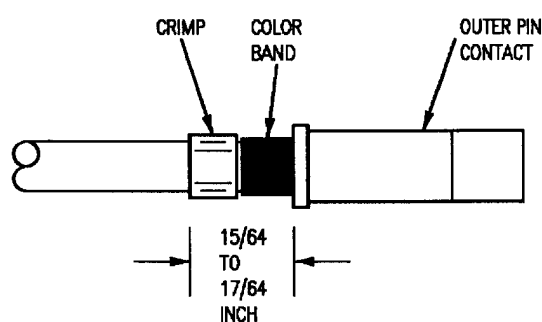


F/A-18-WRM-(302-5)01-CATI

8. Fold shield forward over outer pin contact. Slide crimp sleeve over shield.

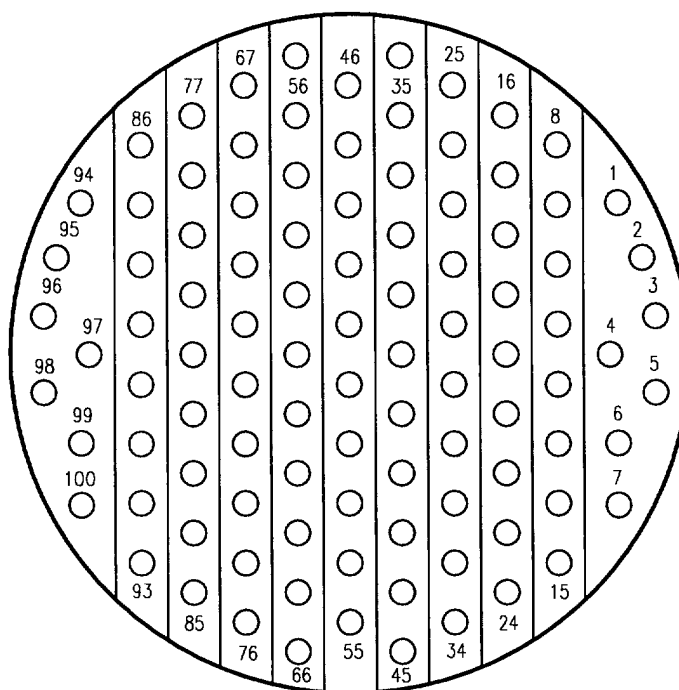
9. Crimp sleeve using M22520/4-1 crimp tool and M22520/4-02 positioner.

10. Rotate assembly 45 degrees and crimp a second time.



F/A-18-WRM-(302-6)01-CATI

Figure 66. M39029/77-428 Coaxial Assembly Procedure (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-35)01-CATI

Reference Designation to Backshell Data Index for MS27467T23B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-C159G	M85049/46W22	070 00
61P-W093	G7057-23-NF	060 00
84P-T058	M85049/46W22	070 00

Reference Designation to Backshell Data Index for MS27467T23B35PD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W112	G7057-23-NF	060 00
61P-Y112	G7057-23-NF	060 00

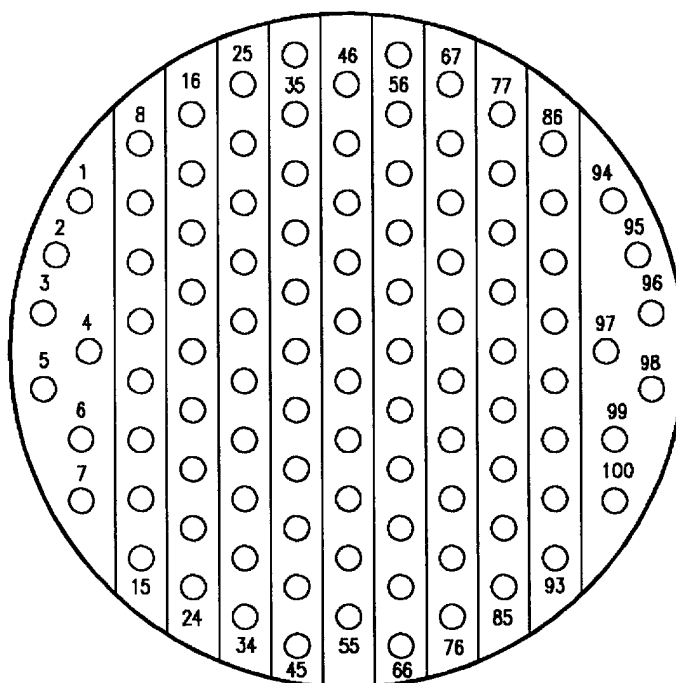
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK1G5-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 67. MS27467T23B35P and MS27467T23B35PD Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-35)01-CATI

Reference Designation to Backshell Data Index for MS27467T23B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-C057G	M85049/46W22	070 00
2 52P-P165	M85049/45W22	070 00
61P-P014A	G7056-23-NF	060 00
61P-R016A	G7056-23-NF	060 00
84P-P054	G7057-23-NF	060 00
84P-R057	G7057-23-NF	060 00
85P-N002C	M85049/46W22	070 00
1 F/A-18A 161702 AND UP, F/A-18B; ALSO F/A-18A 161353 THRU 161528 AFTER F18 AFC 54. 2 162445 AND UP.		

Reference Designation to Backshell Data Index for MS27467T23B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-F003	585049/46W22	070 00
52P-P111	G7057-23-NF	060 00
85P-N002B	M85049/46W22	070 00

Figure 68. MS27467T23B35S, MS27467T23B35SA, MS27467T23B35SB and MS27467T23B35SD Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27467T23B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-F006	M85049/46W22	070 00

Reference Designation to Backshell Data Index for MS27467T23B35SD Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-R065	M85049/46W22	070 00
 F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data



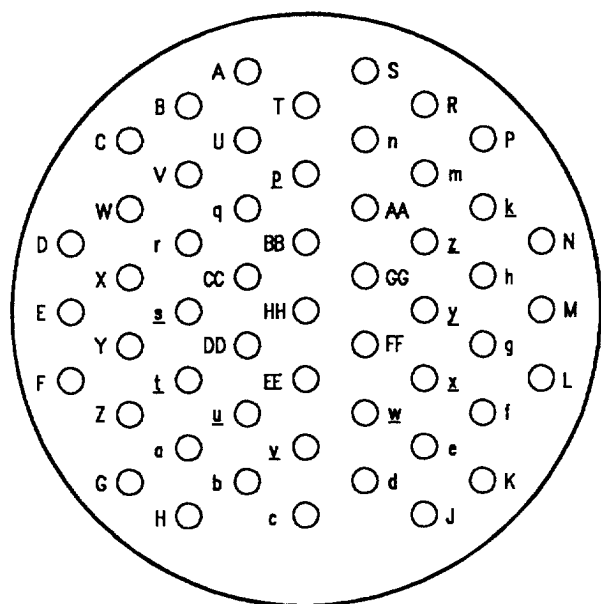
CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
 1 THRU 100	5/32	M39029/56-348	MS27488-22
 85P-N002B socket numbers 8 and 100 are part number 031-1147-011 and socket numbers 9 and 11 are 031-1147-010.			

Figure 68. MS27467T23B35S, MS27467T23B35SA, MS27467T23B35SB and MS27467T23B35SD Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-53)01-CATI

Reference Designation to Backshell Data Index for MS27467T23B53P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-E011	M85049145W22	070 00
61P-W012C	G7057-23-NF	060 00

Reference Designation to Backshell Data Index for MS27467T23B53P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W012D	G7057-23-NF	060 00

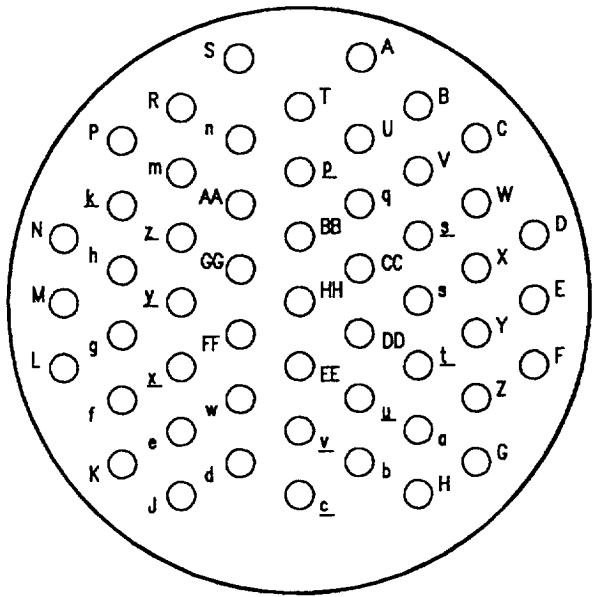
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Figure 69. MS27467T23B53P and MS27467T23B53PD Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU k, m, n, p THRU HH	5/32	M39029/58-362	MS27488-20



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-53)01-CATI

Reference Designation to Backshell Data Index for MS27467T23B53S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-P064B	G7057-23-NF	060 00
52P-R066B	G7057-23-NF	060 00
64P-E001F	M85049/46W22	070 00

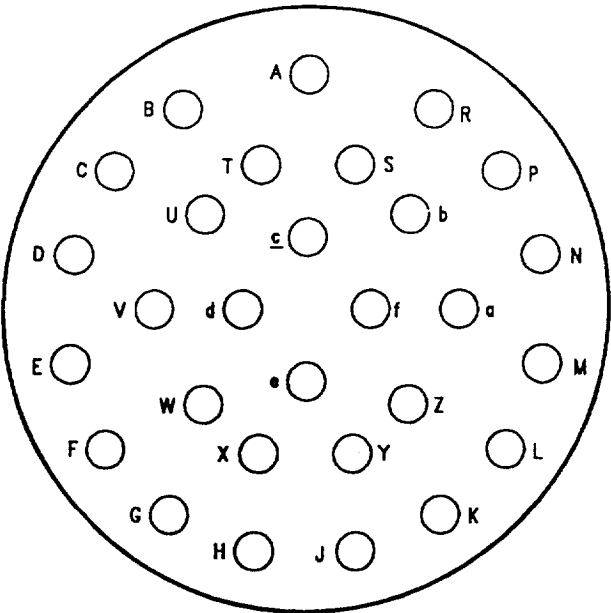
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU k, m, n, p THRU HH	7/32	M39029/56-351	MS27488-20

Figure 70. MS27467T23B53S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-29)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B29P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W023B	G7057-25-NF	060 00

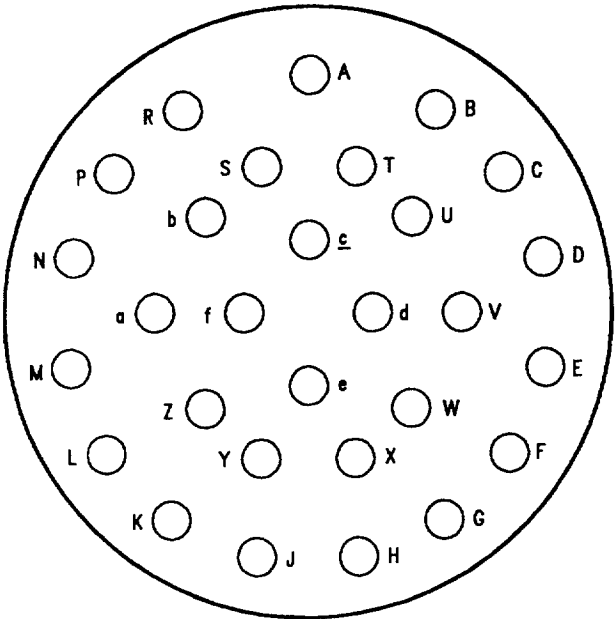
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU f	7/32	M39029/58-364	MS27488-16

Figure 71. MS27467T25B29P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-29)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B29SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-F058D	M85049/46W24	070 00

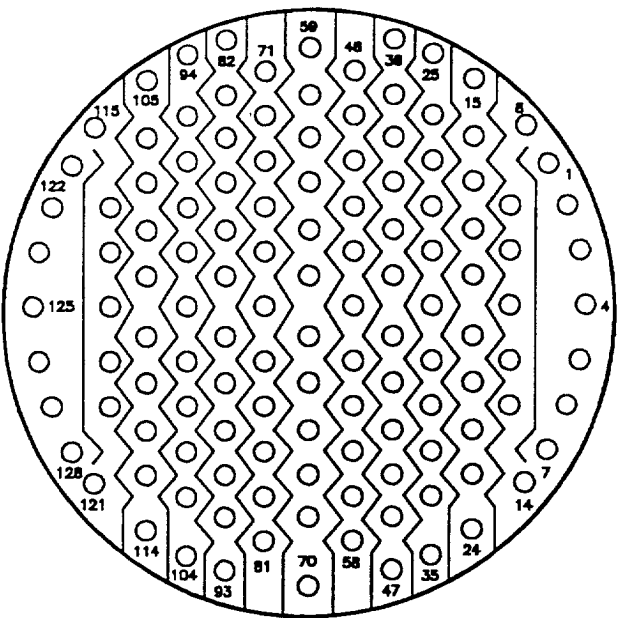
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (WHITE)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU f	7/32	M39029/56-352	MS27488-16

Figure 72. M527467T25B29SC Connector



AS VIEWED FROM REAR OF CONNECTOR




F/A-18-WRM-(923-128)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-P110	G7056-25-NF	060 00
1 52P-P164	M85049/46W24	070 00
52P-R113	G7057-25-NF	060 00
70P-F001B	M85049/46W24	070 00
8P-L001B	M85049/45W24	070 00
2 8P-L097B	M85049/46W24	070 00
3 84P-E041	M85049/45W24	070 00
84P-E044	M85049/45W24	070 00
84P-F001A	M85049/46W24	070 00
84P-F002A	M85049/46W24	070 00
84P-F042	M85049/46W24	070 00
3 84P-F043	M85049/45W24	070 00
84P-P053	G7056-25-NF	060 00
84P-R056	G7056-25-NF	060 00
1 162445 AND UP		
2 F/A-18B		
3 F/A-18A		

Figure 73. MS27467T25B35P, MS27467T25B35PA, MS27467T25B35PB and MS27467T25B35PC Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27467T25B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
83P-E001A	M85049/46W24	070 00
83P-F002A	M85049/46W24	070 00
 84P-E045	M85049/45W24	070 00
 84P-F047	M85049/45W24	070 00
 F/A-18B		

Reference Designation to Backshell Data Index for MS27467T25B35PB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-C057D	M85049/46W24	070 00
52P-E007	M85049/45W24	070 00
83P-E001C	M85049/46W24	070 00
83P-F002C	M85049/46W24	070 00

Reference Designation to Backshell Data Index for MS27467T25B35PC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-C057F	M85049/46W24	070 00
84P-F001J	M85049/46W24	070 00
84P-F002J	M85049/46W24	070 00

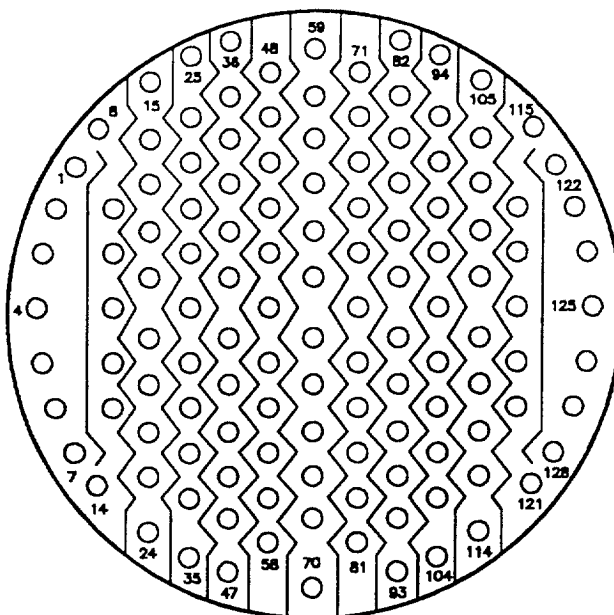
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 128	5/32	M39029/58-360	MS27488-22

Figure 73. MS27467T25B35P, MS2746T25B35PA, MS27467T25B35PB and MS27467T25B35PC Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-128)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 12P-A004A	M85049/46W24	070 00
2 12P-D004A	M85049/46W24	070 00
52P-A034	M85049/45W24	070 00
52P-A046	M85049/45W24	070 00
52P-B042	M85049/45W24	070 00
3 52P-C032	M85049/45W24	070 00
4 52P-C032	M85049/45W20	070 00
52P-C039	M85049/45W24	070 00
52P-D028	M85049/45W24	070 00
52P-D038	M85049/46W24	070 00
52P-E059	M85049/46W24	070 00
4 52P-E307	M85049/46W24	070 00
61P-F001B	M85049/46W24	070 00
68P-E001A	M85049/46W24	070 00
76P-H009A	M85049/46W24	070 00
82P-F001C	M85049/46W24	070 00
4 84P-E041	M85049/45W24	070 00
84P-F001D	M85049/46W24	070 00
84P-F002D	M85049/46W24	070 00
4 84P-F043	M85049/45W24	070 00
85P-F001A	M85049/46W24	070 00
85P-N002A	M85049/46W24	070 00
1 162394 AND UP; ALSO 161353 THRU 161987 AFTER F18 AFC 48.		
2 161353 THRU 161987 BEFORE F18 AFC 48		

Figure 74. MS27467T25B35S, MS27467T25B35SA, MS27467T25B35SB, MS27467T25B35SC and MS27467T25B35SD Connectors (Sheet 1)

**Reference Designation to Backshell Data Index for MS27467T25B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
3 F/A-18A		
4 F/A-18B		

Reference Designation to Backshell Data Index for MS27467T25B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-A046	M85049/46W24	070 00
52P-C057E	M85049/46W24	070 00
52P-D029	M85049/45W24	070 00
52P-F058B	M85049/46W24	070 00
76P-H009B	M85049/46W24	070 00
82P-F001A	M85049/46W24	070 00
84P-E045	M85049/45W24	070 00
84P-E048	M85049/45W24	070 00
84P-F001B	M85049/46W24	070 00
84P-F002B	M85049/46W24	070 00
84P-F046	M85049/46W24	070 00
2 84P-F047	M85049/45W24	070 00
85P-N002D	M85049/45W24	070 00
1 161702 AND UP.		
2 F/A-18A		

Reference Designation to Backshell Data Index for MS27467T25B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-F058C	M85049/46W24	070 00
84P-F001H	M85049/46W24	070 00
84P-F002H	M85049/46W24	070 00

Reference Designation to Backshell Data Index for MS27467T25B35SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84P-F001L	M85049/46W24	070 00
84P-F002L	M85049/46W24	070 00

Reference Designation to Backshell Data Index for MS27467T25B35SD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-F058E	M85049/46W24	070 00
61P-F001A	M85049/46W24	070 00

**Figure 74. MS27467T25B35S, MS27467T25B35SA, MS27467T25B35SB,
MS27467T25B35SC and MS27467T25B35SD Connectors (Sheet 2)**

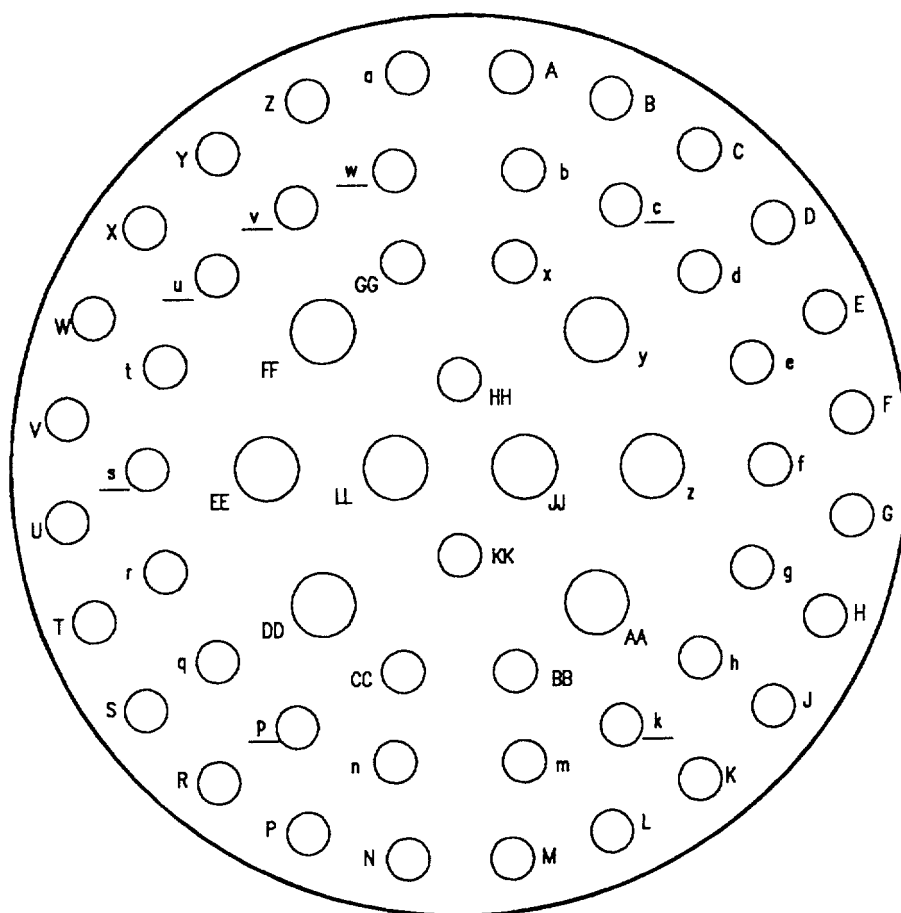
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 128	5/32	M39029/56-348	MS27488-22

**Figure 74. MS27467T25B35S, MS27467T25B35SA, MS27467T25B35SB,
MS27467T25B35SC and MS27467T25B35SD Connectors (Sheet 3)**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(825-58)01-CAT1

Reference Designation to Backshell Data Index for MS27467T25B4S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W012A	G7057-25-NF	060 00

Figure 75. MS27467T25B4S Connector (Sheet 1)

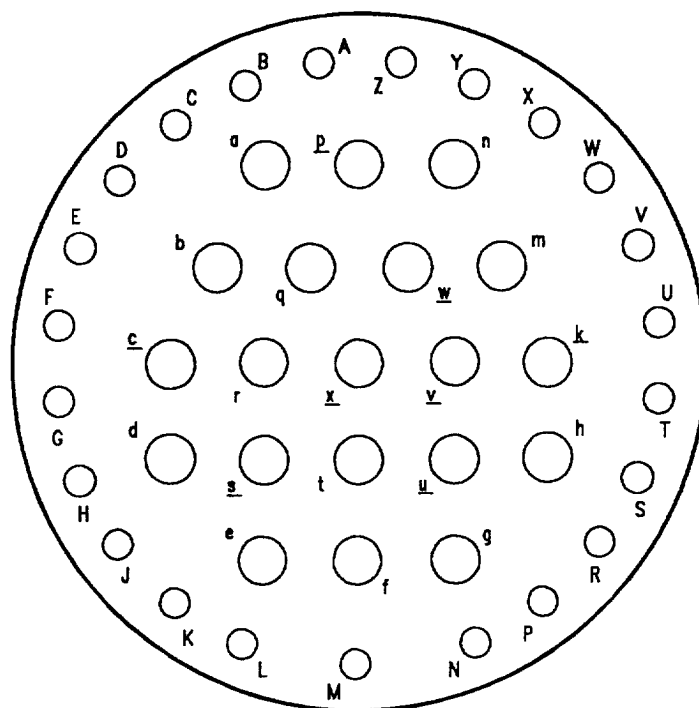
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M2252011-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU h, k, m, n, p THRU x, BB CC, GG, HH, KK.	7/32	M39029/56-351	MS27488-20
y, z, AA, DD, EE, FF, JJ, LL	7/32	M39029/56-352	MS27488-16

Figure 75. MS27467T25B4S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(925-43)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B43P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-C057C	M85049/46W24	070 00
52P-C159E	M85049/46W24	070 00
52P-D024C	M85049/46W24	070 00
52P-D026C	M85049/45W24	070 00

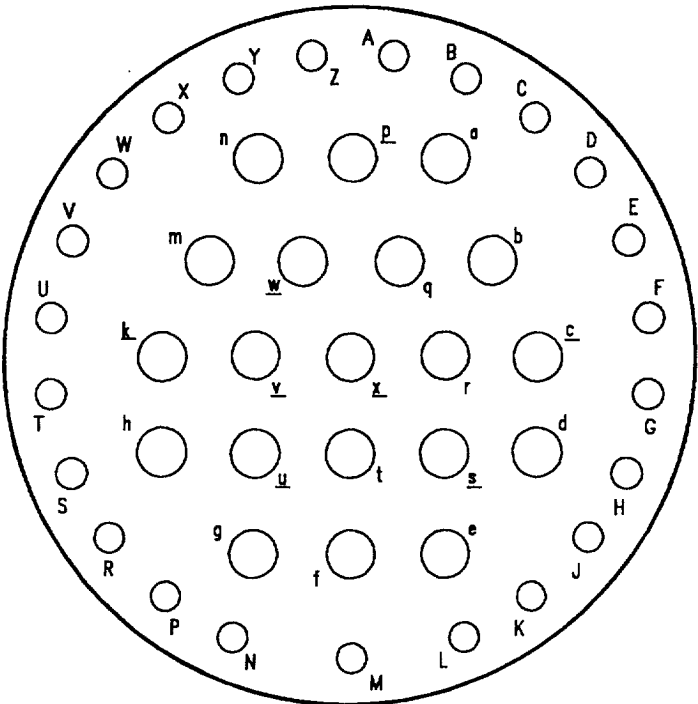
Table 1. Tool Data For Wired Contact

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2
Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 76. MS27467T25B43P Connector (Sheet 1)

Table 2. Contact Data For Wired Contact

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z,	7/32	M39029158-363	MS27488-20
a THRU h, k, m AND n, p THRU X	7/32	M39029/58-364	MS27488-16



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(625-43)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B43S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52P-F058A	M85049/46W24	070 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

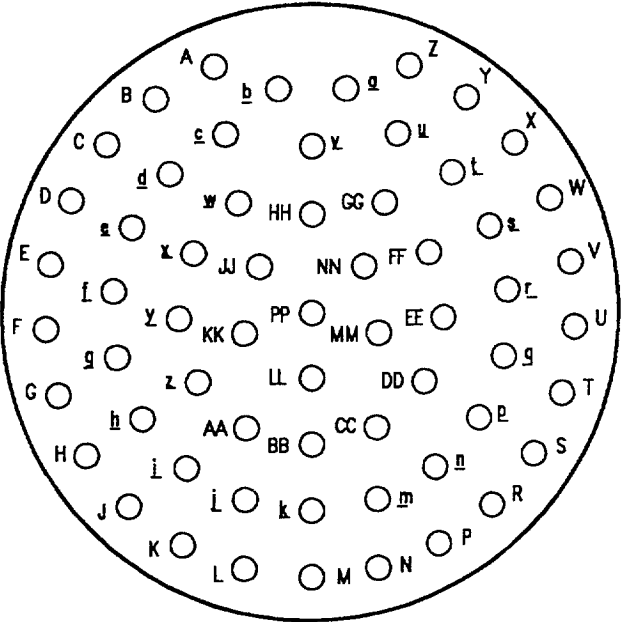
CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z,	7/32	M39029/56-351	MS27488-20

Figure 77. MS27467T25B43S Connector (Sheet 1)

Table 2 Contact Data (Continued)

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
a THRU h, k, m AND n, p THRU x	7/32	M39039/56-352	MS27488-16

Figure 77. MS27467T25B43S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(925-51)01-CATI

Reference Designation to Backshell Data Index for MS27467T25B61PA Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-C033	M85049/45W24	070 00
 F/A-18A		

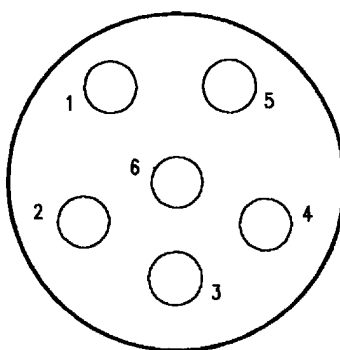
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M2252011-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Figure 78. MS27467T25B61PA Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU k, m, n, p THRU HH, JJ THRU NN AND PP	7/32	M39029/58-363	MS27488-20



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(909-6)01-CATI

Reference Designation to Backshell Data Index for MS27467T9B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1P-C005	M85049/45W8	070 00
1P-D006	M85049/46W8	070 00
12P-G029	G7057-9-1NF	060 00
1 12P-G060	G7057-9-1NF	060 00
1 12P-G061	G7057-9-NF	060 00
2 18P-T014	G7056-9-NF	060 00
3 20P-L014	G7056-9-NF	060 00
4 22P-D096	M85049/45W8	070 00
5 22P-E098	M85049/45W8	070 00
7 22P-F096	M85049/45W8	070 00
52P-H083	M85049/45W8	070 00
6 61P-J022C	M85049/46W8	070 00
61P-W239	G7057-9-1NF	060 00
5 62P-A030E	M85049/45W8	070 00
5 62P-B029E	M85049/45W8	070 00
1 161737 AND UP 2 162826 AND UP 3 F/A-18B 4 161353 THRU 161519 5 161702 AND UP. 6 161353 THRU 161924 BEFORE F18 AFC 57. 7 161520 AND UP; ALSO F/A-18B 161365 THRU 161360 AFTER F18 AFC 27.		

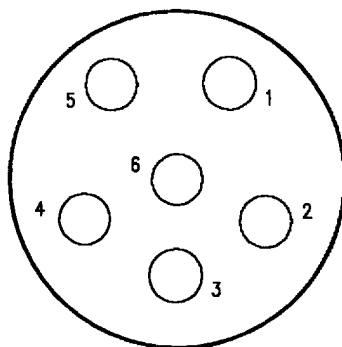
Figure 79. MS27467T9B35P Connector (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(809-6)01-CATI

Reference Designation to Backshell Data Index for MS27467T9B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
3 1P-J137	M85049/46W8	070 00
10P-G017	G7057-9-1NF	060 00
13P-P004	M85049/46W8	070 00
13P-P006	G7057-9-1NF	060 00
13P-R005	G7057-9-1NF	060 00
19P-T012	G7056-9-1NF	060 00
22P-P012	M85049/45W8	070 00
22P-A087	M85049/45W8	070 00
22P-A089	M85049/45W8	070 00
22P-E007	G7057-9-1NF	060 00
22P-E010	G7057-9-1NF	060 00
5 22P-E098	M85049/46W8	070 00
6 22P-K102	M85049/46W8	070 00
7 22P-L102	M85049/46W8	070 00
22P-M008	G7057-9-1NF	060 00
22P-M009	G7056-9-NF	060 00
4 22P-N014	M85049/46W8	070 00
22P-N017	M85049/46W8	070 00
22P-P005	M85049/46W8	070 00
22P-P012	M85049/45W8	070 00
22P-R006	M85049/46W8	070 00
4 22P-R015A	M85049/46W8	070 00
4 22P-R016	M85049/46W8	070 00
4 22P-R110	M85049/45W8	070 00
22P-S018	M85049/46W8	070 00
23P-B003	M85049/45W8	070 00
3P-P055	G7057-9-1NF	060 00
3P-P059	42312-354	None
3P-R056	G7057-9-1NF	060 00
3P-R060	42312-354	None
5P-D009	M85049/46W8	070 00
5P-F029	M85049/46W8	070 00
5P-P102	M85049/46W8	070 00

**Figure 80. MS27467T9B35S, MS27467T9B35SA and KJL6T9E35SN Connectors
(Sheet 1)**

**Reference Designation to Backshell Data Index for MS27467T9B35S Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5P-R032	M85049/46W8	070 00
5P-R033	M85049/46W8	070 00
5P-R034	M85049/46W8	070 00
5P-T104	M85049/46W8	070 00
52P-B156	M85049/45W8	070 00
<input type="checkbox"/> 7 52P-K304	M85049/46W8	070 00
<input type="checkbox"/> 1 61P-B184	M85049/45W8	070 00
<input type="checkbox"/> 2 61P-B184	M85049/46W8	070 00
7P-S048	G7056-9-NF	060 00
8P-H052	M85049/46W8	070 00
84P-G036	G7056-9-NF	060 00
<input type="checkbox"/> 1 161925 AND UP. <input type="checkbox"/> 2 161353 THRU 161924. <input type="checkbox"/> 3 161520 AND UP, ALSO 161353 THRU 161519 AFTER F18 AFC 49 <input type="checkbox"/> 4 F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP. <input type="checkbox"/> 5 161353 THRU 161528 <input type="checkbox"/> 6 F/A-18A <input type="checkbox"/> 7 F/A-18B		

Reference Designation to Backshell Data Index for MS27467T9B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 22P-R015B	M85049/46W8	070 00
22P-S019	M85049/46W8	070 00
34P-D011	M85049/46W8	070 00
<input type="checkbox"/> 1 F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP.		

Reference Designation to Backshell Data Index for KJL6T9E35SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
4P-T109D	S1720-03-30S-S	080 00

**Figure 80. MS27467T9B35S, MS27467T9B35SA and KJL6T9E35SN Connectors
(Sheet 2)**

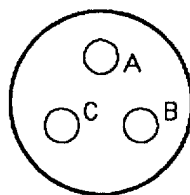
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2
Positioner	M22520/2-10
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029156-348	MS27488-22
1 THRU 6	7/32	M39029156-351	MS27488-20

Figure 80. MS27467T9B35S, MS27467T9B35SA and KJL6T9E35SN Connectors
(Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(909-3)01-CATI

Reference Designation to Backshell Data Index for MS27467T9B98S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
10P-F015	G7056-9-NF	060 00
10P-R012	M85049/46W8	070 00
12P-G007	G7056-9-NF	060 00
19P-T009	G7057-9-1NF	060 00
22P-A088	M85049/46W8	070 00
22P-S023	M85049/45W8	070 00
22P-S024	G7057-9-1NF	0610 00
22P-T022	G7056-9-NF	061 00
3P-P010	G7056-9-NF	061 00
3P-P064	G7056-9-NF	061 00
3 3P-P095	G7056-9-NF	060 00
2 3P-R011	G7056-9-NF	061 00
1 3P-R011	G7057-9-1NF	061 00
3P-R065	G7056-9-NF	061 00
4 3P-R096	G7057-9-1NF	060 00
5 3P-R096	G7056-9-NF	060 00
7P-G026	G7056-9-NF	060 00
1 161353 THRU 162999. 2 163092 AND UP 3 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 74. 4 161702 AND UP. 5 161353 THRU 161519 AFTER F18 AFC 26.		

Reference Designation to Backshell Data Index for MS27467T9B98SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 4P-T109B	M85049/49-2-8W	080 00
1 F/A-18B		

Figure 81. MS27467T9B98S, MS27467T9B98SA, KJL6T9E98SA, KJL6T9E98SD, and KJL6T9E98SN Connectors (Sheet 1)

Reference Designation to Backshell Data Index for KJL6T9E98SA Connectors

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 4P-T109B	S1720-03-30S-S	080 00
 F/A-18A 163434 THRU 164279		

Reference Designation to Backshell Data Index for KJL6T9E98SD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
4P-T109C	S1720-03-30S-S	080 00

Reference Designation to Backshell Data Index for KJL6T9E98SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
4P-T109A	S1720-03-30S-S	080 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU C	7/32	M39029/56-351	MS27488-20

Figure 81. MS27467T9B98S, MS27467T9B98SA, KJL6T9E98SA, KJL6T9E98SD, and KJL6T9E98SN Connectors (Sheet 2)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

WIRING REPAIR WITH PARTS DATA

KJL7YC103451-3 AND MS27468 (MIL-C-38999 SERIES 1)
CONNECTOR REPAIR

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Expando Sleeve Installation for Environmental Type Connectors With	
Molded Plastic Cable Clamps	WP070 00
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 27	-	Improvement of Leading Edge Flap Design (ECP MDA-F/A-18-00044)	1 Sep 86	-

Reference Designation to
Figure Number Index

Reference Designation	Figure No.
6 18J-T014	39
3 19J-S013	22
3J-M028	22
3J-N033	22
5J-P136	21
5J-P137	21
5J-P145	24
5J-R120	21
5J-R135	29
5 5J-R144	24
5J-Y025	23
52J-F001	33
5 52J-F003	34
5 52J-F006	34
52J-H085	25
52J-P035	24
52J-P110	37
52J-P111	34
52J-P117	30
52J-P123	27
5 52J-R036	24
5 52J-R113	37
52J-R114	21
5 52J-R116	32
61J-U045	21
61J-V046	21
1 7J-S048	38
2 7J-S048	See WP172 00
84J-F042	37
84J-F046	36
4 84J-M132	23
4 84J-M133	23
84J-P053	37
84J-P054	34
84J-P055	31
84J-P059	28
84J-P060	26
84J-P067	27
84J-R056	37
84J-R057	34
84J-R058	35
84J-R064	26
84J-R065	26
84J-R068	27
84J-S063	22
84J-U049	26

Reference Designation to
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Reference Designation	Figure No.
84J-V050	26

LEGEND

- 1 161362 AND UP.
 2 161353 THRU 161360.
 3 161522 AND UP.
 4 161520 AND UP; ALSO
 161353 THRU 161519 AFTER F18 AFC
 27
 5 F/A-18A, F/A-18B 161354 THRU 161947, AND
 162836 AND UP.
 6 162826 AND UP.

1. DESCRIPTION.

2. The MIL-C-38999, Series 1, electrical connectors are bayonet coupling, circular environmental resistant type connectors. They are low silhouette design for minimum size and weight with a high density contact layout. The Series 1 connector has a scoop-proof design. These connectors provide electrical continuity between mated shells before contact engagement and have the contacts located to be protected from handling damage and inadvertent electrical contact.

3. The crimp tool handle, positioner, insertion tool, removal tool, and unwired removal tool are listed in table 1. Additional information relating to strip dimensions, contact part numbers, and sealing plug part numbers are specified in table 2 for each connector reference designator. Referenced tables are in figure of particular connector.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for breakdown of the military part numbering system for MIL-C-38999, Series 1 connector used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Alcohol, Isopropyl

MS27468T15B35PA

MS NO. _____

CLASS _____

E-ENVIRONMENT WITH REAR HARDWARE
T-ENVIRONMENT WITHOUT REAR HARDWARE

SHELL SIZE _____

9, 11, 13, 15, 17, 19, 21, 23, 25

FINISH (COLOR) _____

A-BRIGHT CADMIUM PLATE OVER NICKEL
B-OLIVE DRAB CADMIUM PLATE

INSERT ARRANGEMENT NO. _____

4, 5, 6, 8, 11, 15, 16, 18, 24, 26, 29, 35, 39, 41,
61, 97, 98, 99

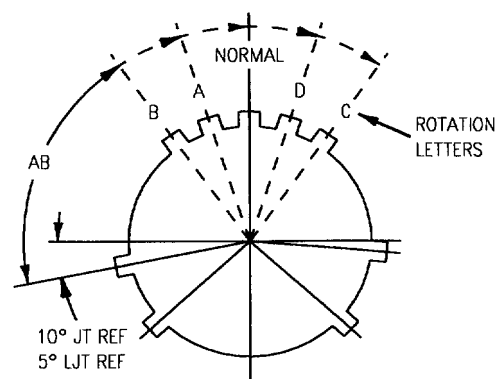
STYLE _____

P-PIN
S-SOCKET

POLARIZATION, NO LETTER REQUIRED IF NORMAL

A PLUG WITH A GIVEN ROTATION LETTER WILL MATE WITH A RECEPTACLE WITH THE SAME ROTATION LETTER. THE AB ANGLE FOR A GIVEN CONNECTOR IS THE SAME WHETHER IT CONTAINS PINS OR SOCKETS. INSERTS ARE NOT ROTATED WITH THE MASTER KEY/KEYWAY.

AB ANGLES SHOWN ARE VIEWED FROM THE FRONT FACE OF THE CONNECTOR, A RECEPTACLE IS SHOWN BELOW. THE ANGLES FOR THE PLUG ARE IDENTICAL EXCEPT THE DIRECTION OF ROTATION IS OPPOSITE OF THAT SHOWN FOR THE RECEPTACLE.



RELATIVE POSSIBLE POSITION
OF ROTATED MASTER KEYWAY.
(FRONT FACE OF RECEPTACLE SHOWN)

SERIES 1 MASTER KEY/KEYWAY ROTATION

AB ANGLE OF ROTATION (DEGREES)					
SHELL SIZE	NORMAL	A	B	C	D
9	95°	77°	-	-	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

F/A-18-WRM-(200-1)02-CATI

Figure 1. Military Part Numbering System for MIL-C-38999, Series 1, Connectors

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine the correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

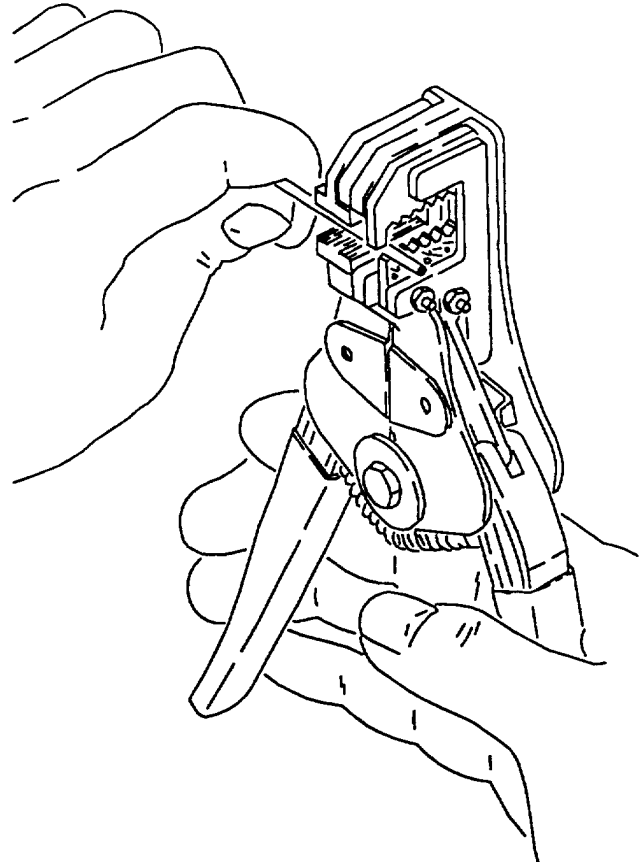
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detail explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

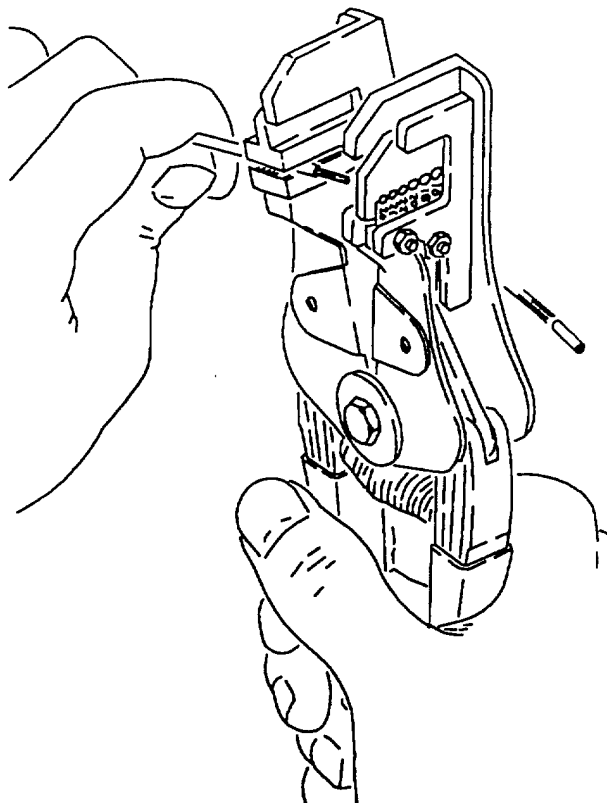
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

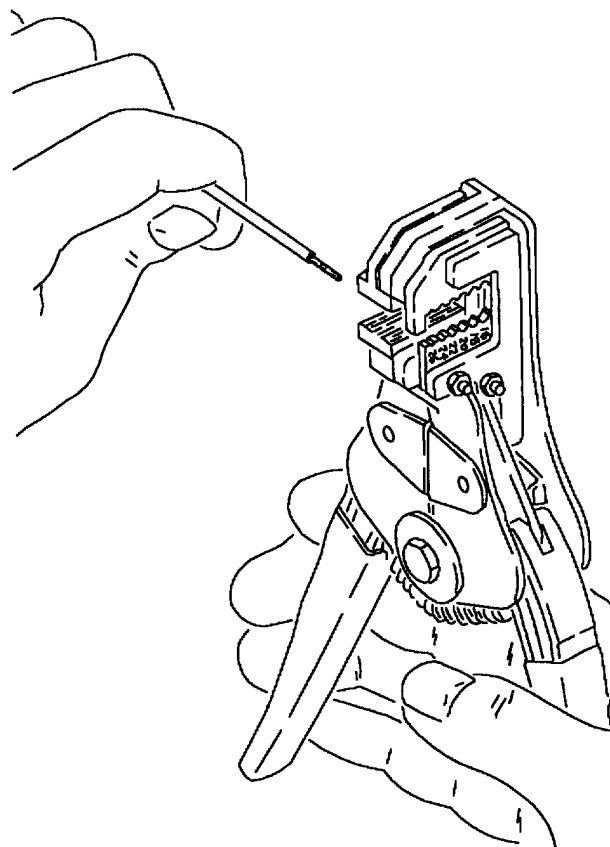
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

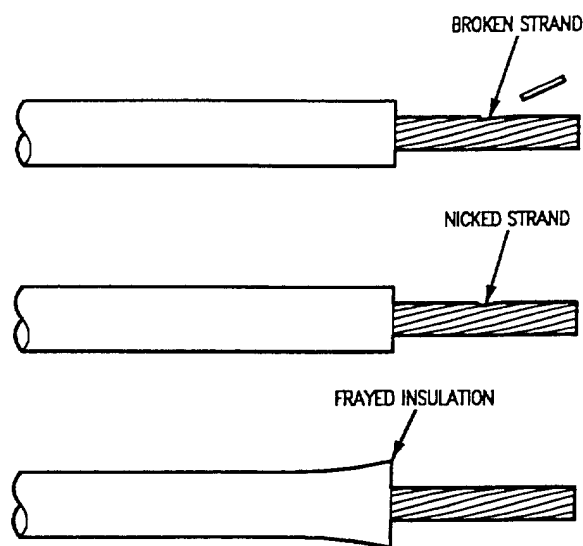


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

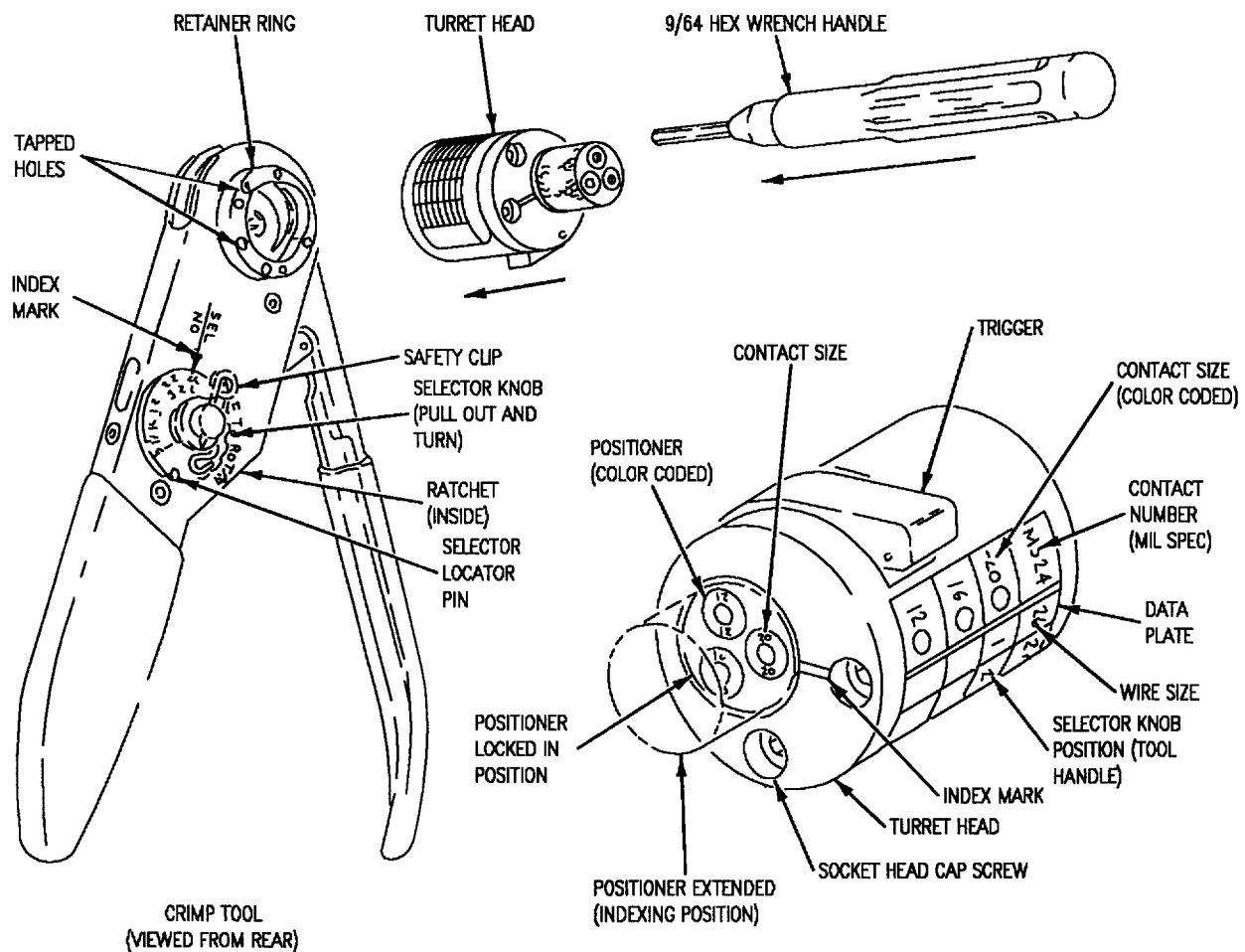
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench, tool case location (509).

d. To remove turret head loosen socket head screw until threads are disengaged from tapped holes, open handles completely and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

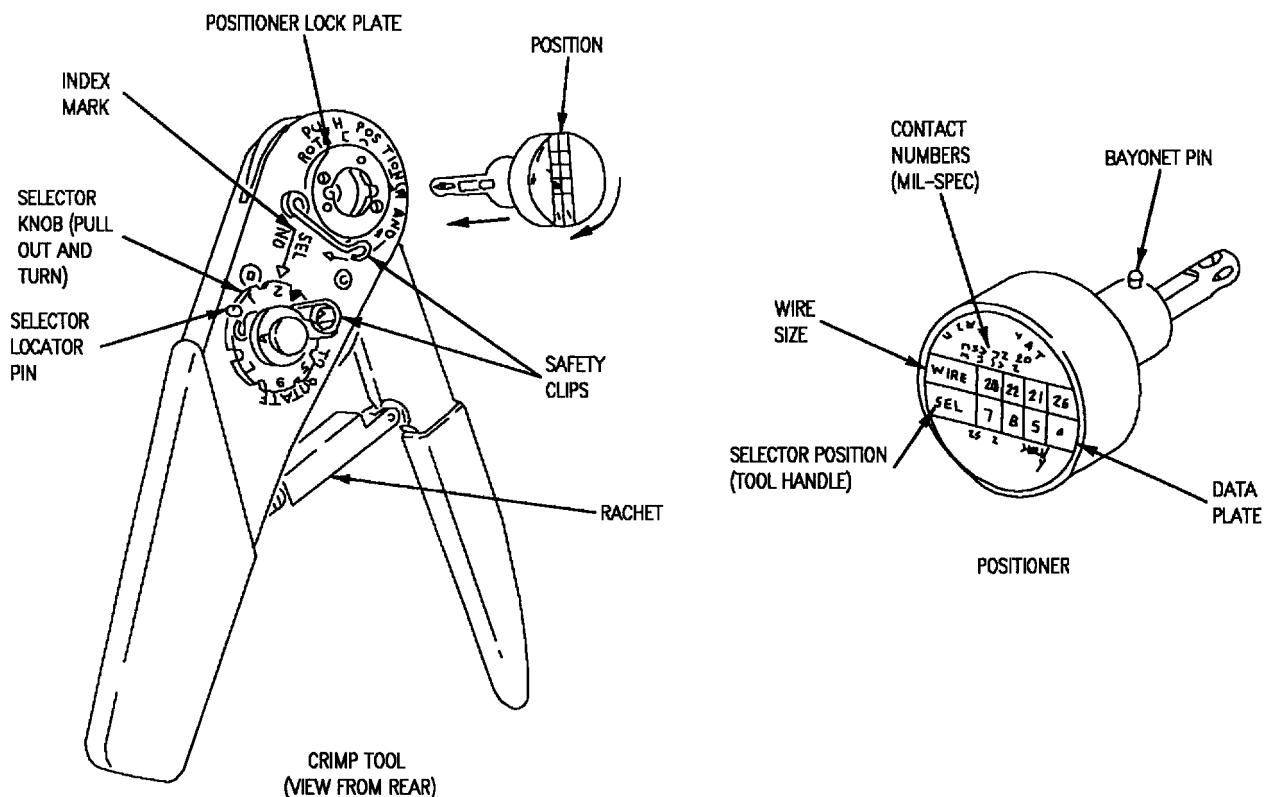
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

c. Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 8.

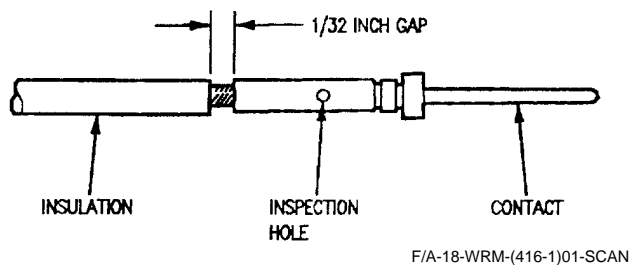


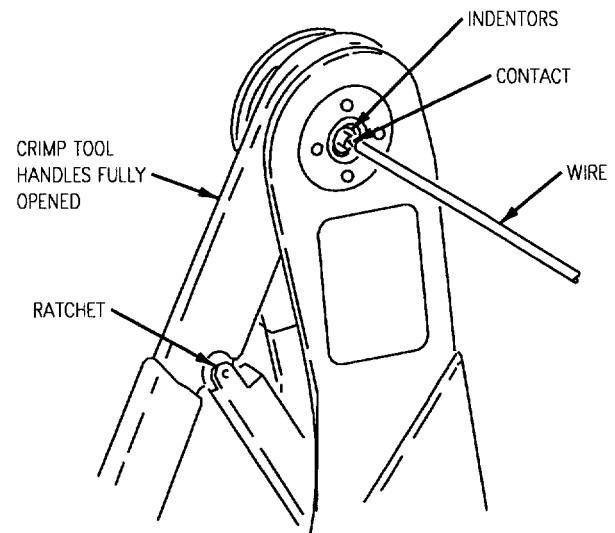
Figure 8. Strip Gap Check

- d. Insert contact and wire into crimp tool-indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

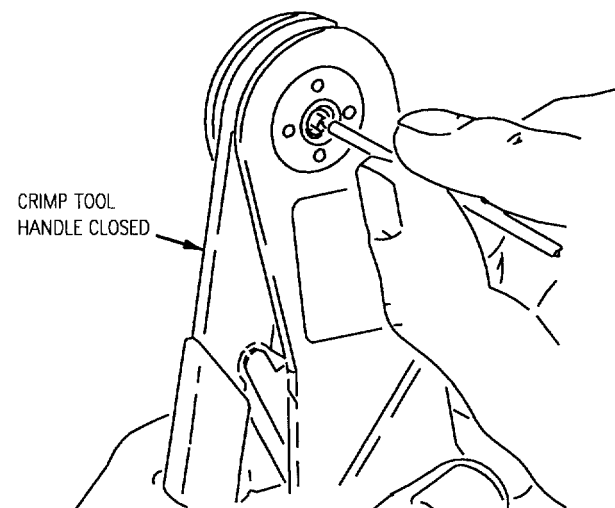
NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

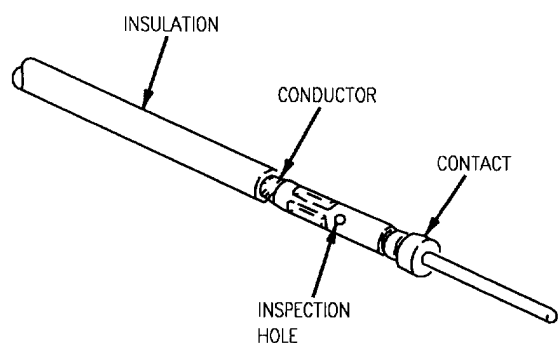
Figure 9. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole see figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(W168-1)01-CATI

Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 11.



Damage may occur to contact insertion tool if tilted or rotated when in connector insert.

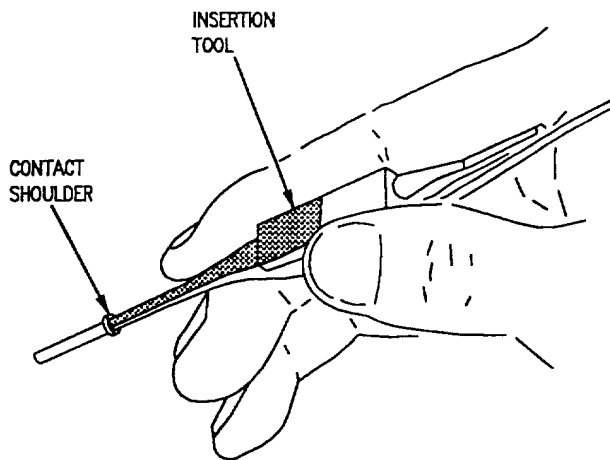


Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 12.

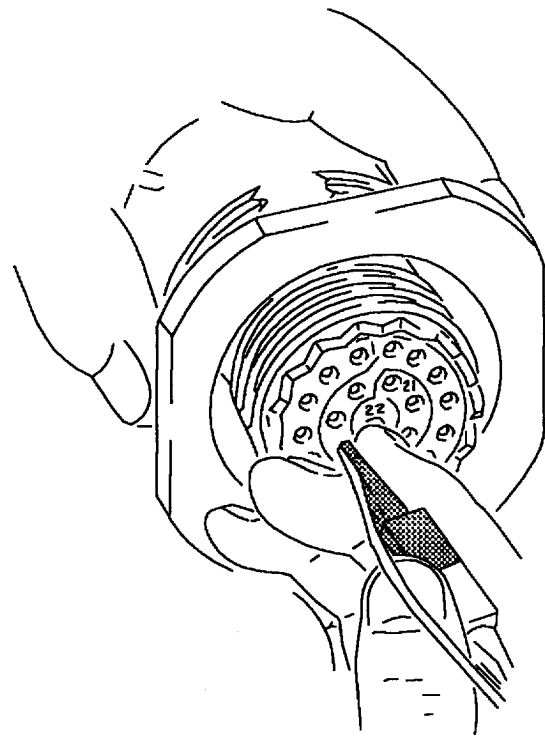


Figure 12. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.

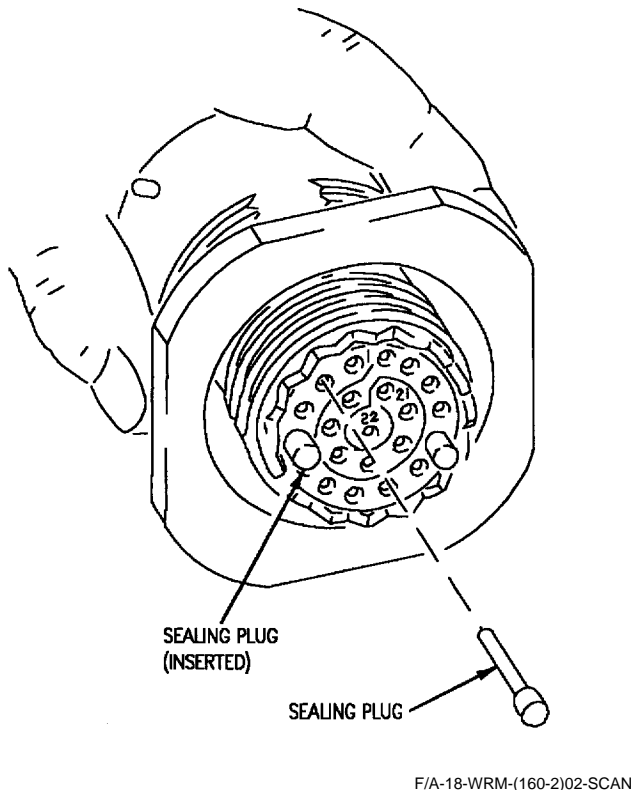


Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

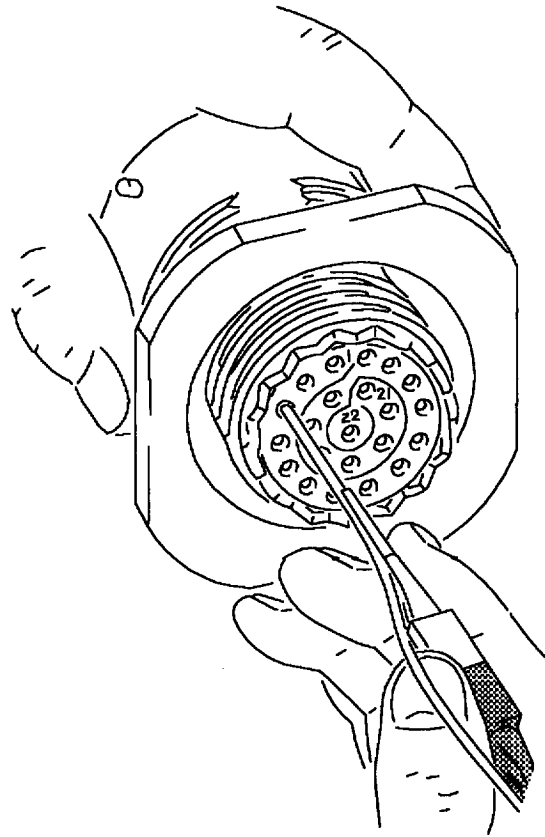
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

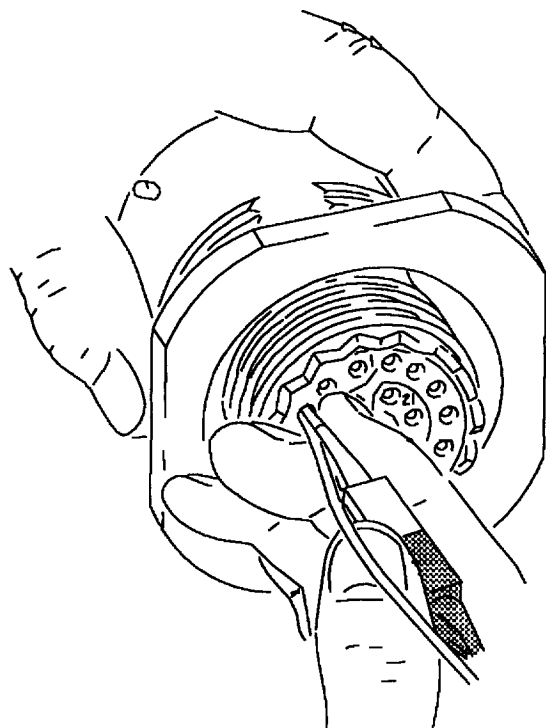
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.



F/A-18-WRM-(160-3)02-SCAN

Figure 14. Removal Tool on Wire

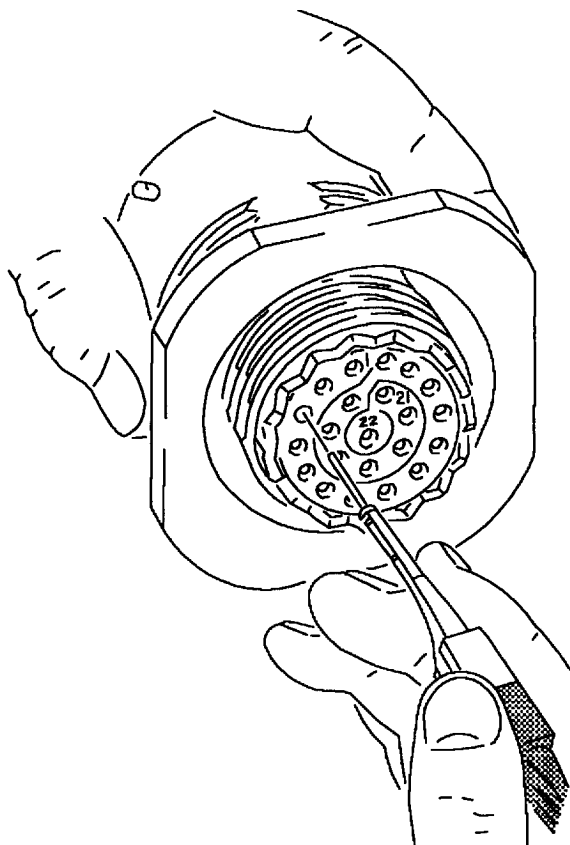
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.



F/A-18-WRM-(160-4)02-SCAN

Figure 15. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



F/A-18-WRM-(160-5)02-SCAN

Figure 16. Removing Contact from Connector

18. UNWIRED CONTACT REMOVAL CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

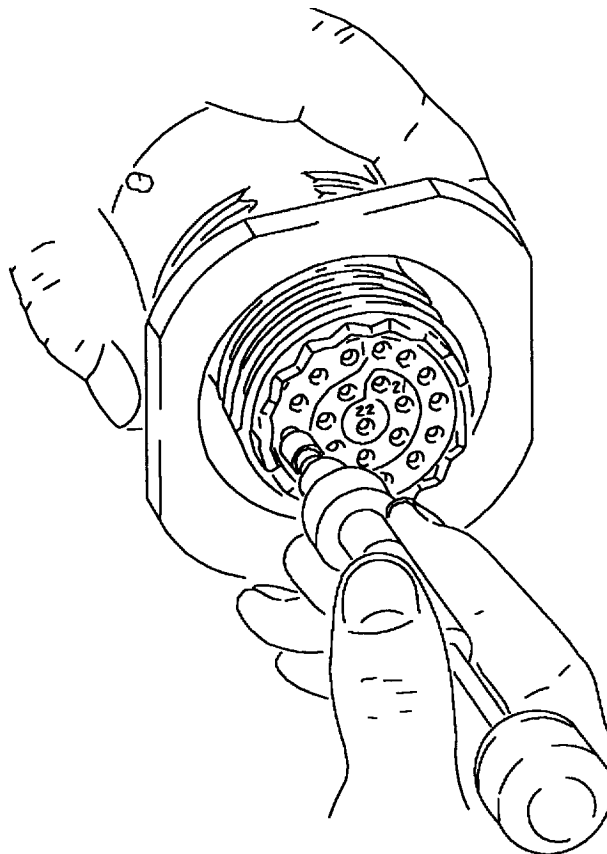
c. Align unwired removal tool at the rear and at a right angle to connector with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

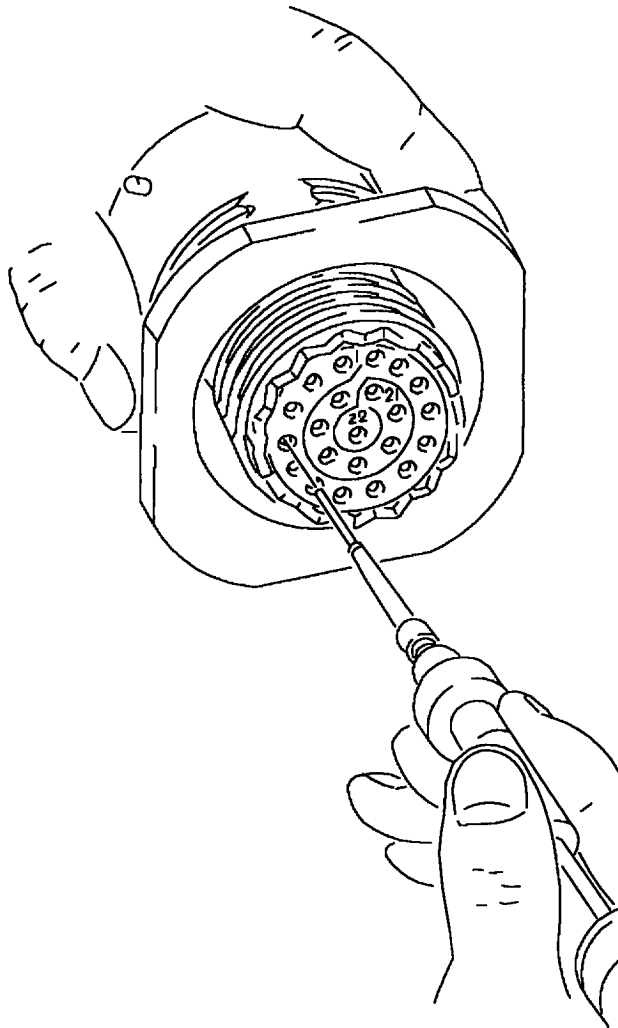
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and release contact retention mechanism. See figure 17.



F/A-18-WRM-(160-6)02-SCAN

Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



F/A-18-WRM-(160-7)02-SCAN

Figure 18. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

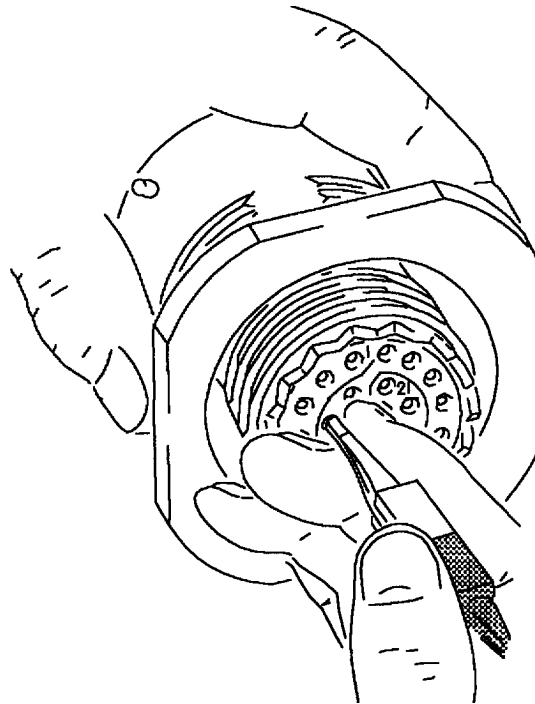
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



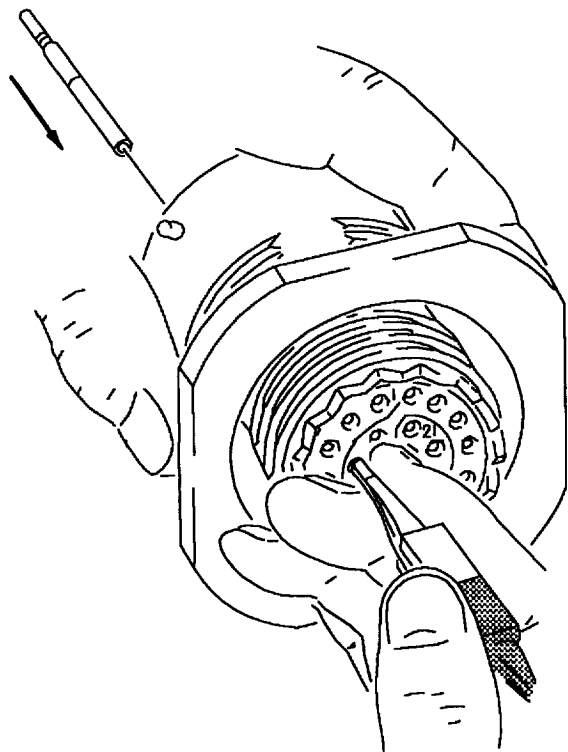
F/A-18-WRM-(160-8)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

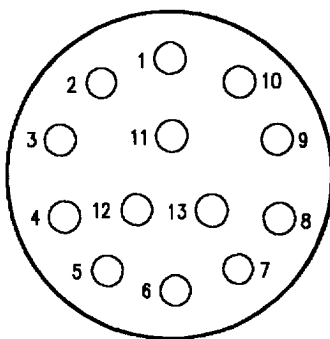
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



F/A-18-WRM-(160-9)02-SCAN

Figure 20. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(911-13)01-CATI

Reference Designation to Backshell Data Index for KJL7YC103451-3 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-P136	None	None
5J-P137	None	None
5J-R120	None	None

Reference Designation to Backshell Data Index for MS27468T11B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-R114	M85049/45W10	070 00
61J-U045	G7057-11-1NF	060 00
61J-V046	G7057-11-1NF	060 00

Table 1. Tool Data for MS27468T11B35P Connector

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data for MS27468T11B35P Connector

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/58-360	MS27488-22

Figure 21. KJL7YC103451-3 and MS27468T11B35P Connectors (Sheet 1)

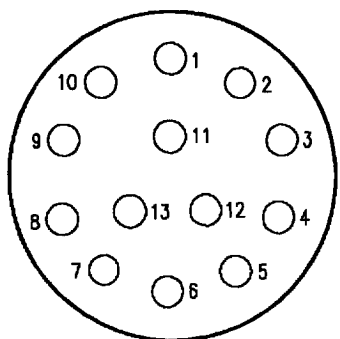
Table 3. Tool Data for KJL7YC103451-3 Connector

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-06
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 4. Contact Data for KJL7YC103451-3 Connector

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/57-354	MS27488-22

Figure 21. KJL7YC103451-3 and MS27468T11B35P Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-13)01-CATI

Reference Designation to Backshell Data Index for MS27468T11B35S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 19J-S013	G7057-11-1NF	060 00
3J-M028	G7057-11-1NF	060 00
3J-N033	G7057-11-1NF	060 00
84J-S063	M85049/45W10	070 00
 161522 AND UP.		

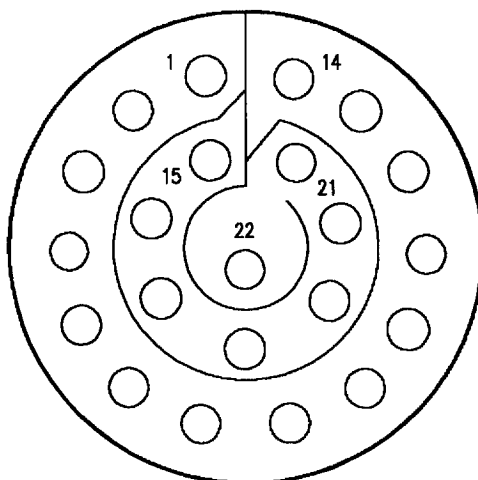
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/56-348	MS27488-22

Figure 22. MS27468T11B35S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(913-22)01-CATI

Reference Designation to Backshell Data Index for MS27468T13B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-Y025 1 84J-M132	None M85049/46W12	None 070 00
1 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27		

Reference Designation to Backshell Data Index for MS27468T13B35PC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 84J-M133	M85049/46W12	070 00
1 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27		

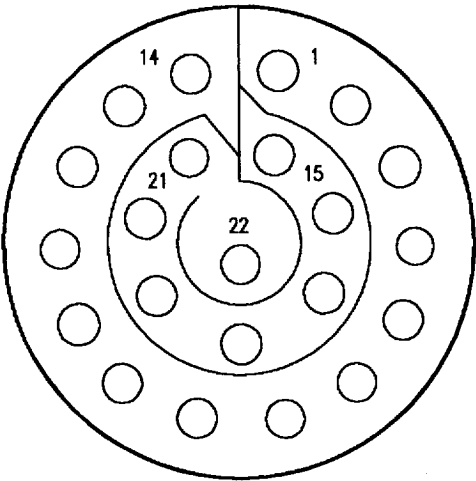
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 23. MS27468T13B35P and MS27468T13B35PC Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-22)01-CATI

Reference Designation to Backshell Data Index for MS27468T13B35S Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-P145	M85049/46W12	070 00
 5J-R144	M85049/46W12	070 00
52J-P035	M85049/45W12	070 00
 52J-R036	M85049/45W12	070 00
 F/A-18A; F/A-18B 161354 THRU 161947 AND 162836 AND UP.		

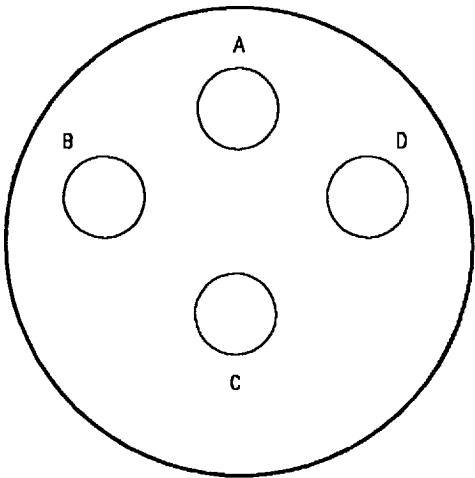
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/56-348	MS27488-22

Figure 24. MS27468T13B35S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(913-4)01-CATI

Reference Designation to Backshell Data Index for MS27468T13B4PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-H085	M85049/46W12	070 00

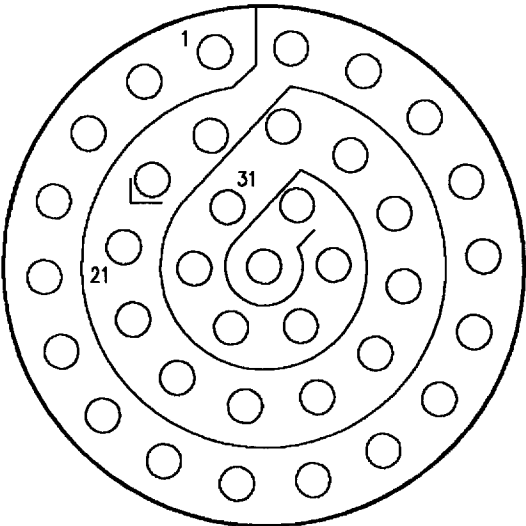
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU D	7/32	M39029/58-364	MS27488-16

Figure 25. MS27468T13B4PA Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(915-37)01-CATI

Reference Designation to Backshell Data Index for MS27468T15B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-P060	M85049/46W14	070 00
84J-R064	M85049/46W14	070 00
84J-R065	M85049/46W14	070 00

Reference Designation to Backshell Data Index for MS27468T15B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-U049	M85049/45W14	070 00
84J-V050	M85049/45W14	070 00

Table 1. Tool Data

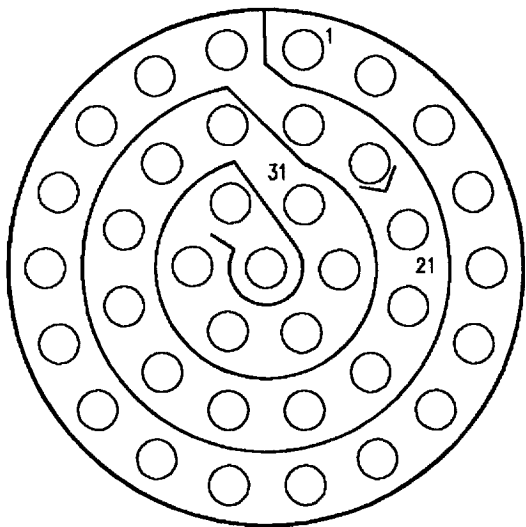
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 26. MS27468T15B35P and MS27468T15B35PA Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/58-360	MS27488-22

Figure 26. MS27468T15B35P and MS27468T15B35PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-37)01-CATI

Reference Designation to Backshell Data Index for MS27468T15B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-P123	M85049/45W14	070 00
84J-P067	M85049/46W14	070 00
84J-R068	M85049/46W14	070 00

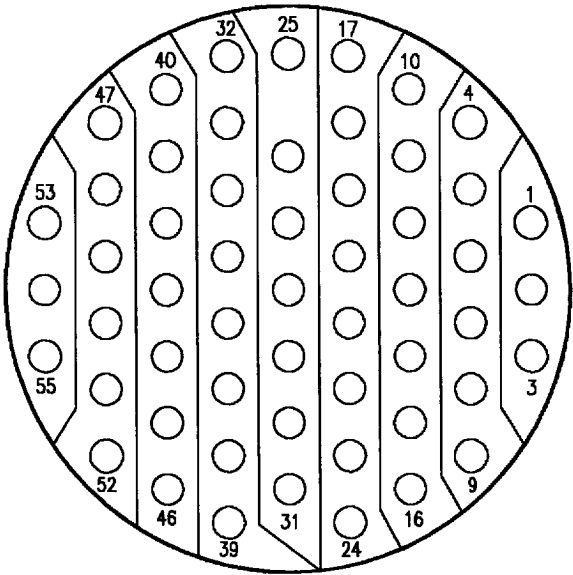
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/56-348	MS27488-22

Figure 27. MS27468T15B35S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(917-55)01-CATI

Reference Designation to Backshell Data Index for MS27468T17B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-P059	M85049/46W16	070 00

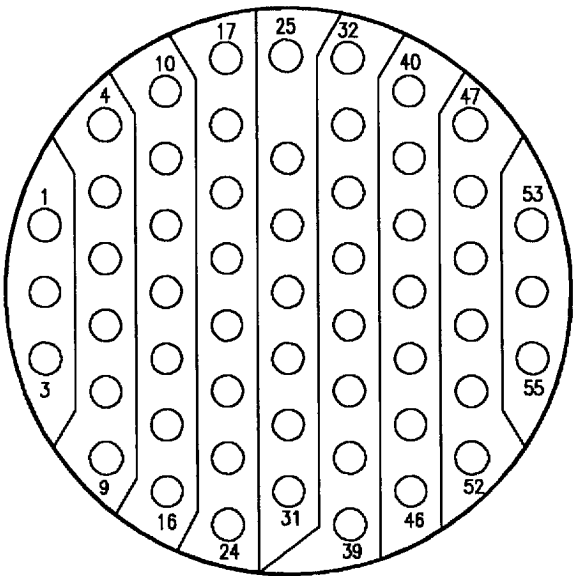
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/58-360	MS27488-22

Figure 28. MS27468T17B35P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-55)01-CATI

Reference Designation to Backshell Data Index for MS27468T17B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-R135	G7056-17-NF	060 00

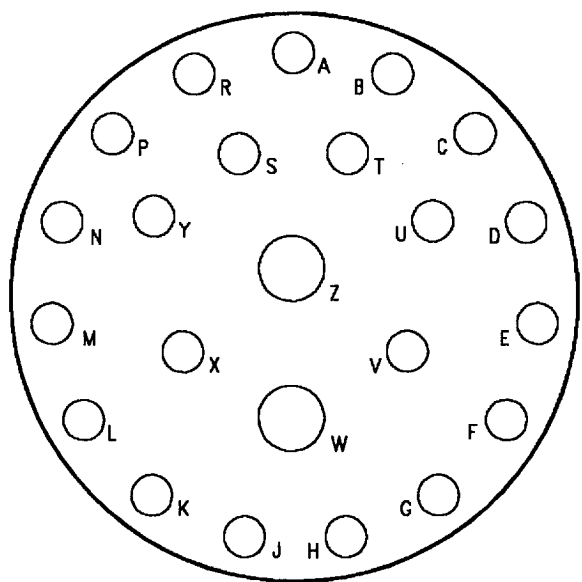
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/56-348	MS27488-22

Figure 29. MS27468T17B35S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-23)01-CATI

Reference Designation to Backshell Data Index for MS27468T17B99S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-P117	M85049/45W16	070 00

Table 1. Tool Data

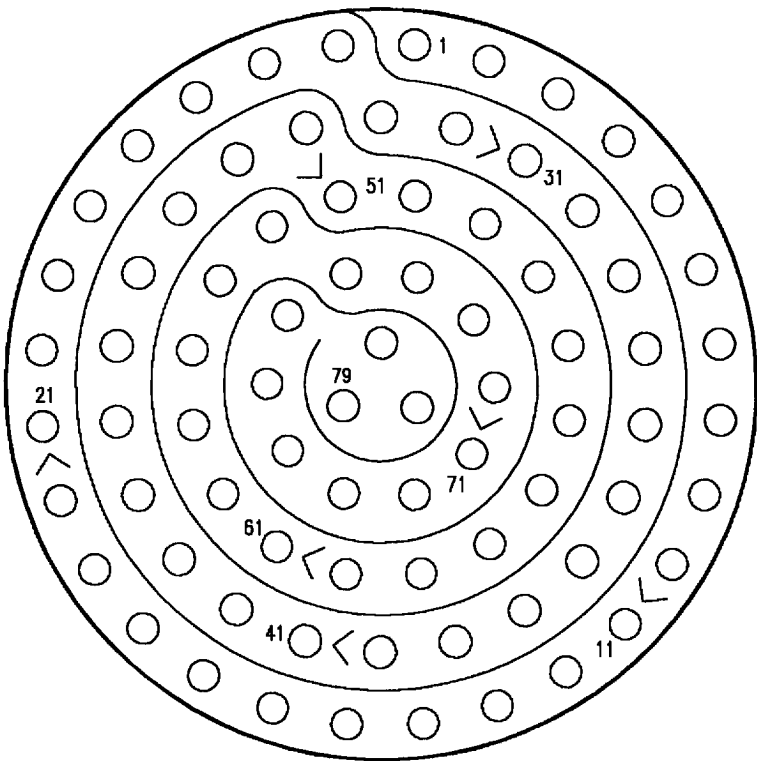
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK106-16-2
Removal Tool Probe (Red)	DRK106-20-2

Figure 30. MS27468T17B99S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU V, X AND Y	7/32	M39029/56-351	MS27488-20
W AND Z	7/32	M39029/56-352	MS27488-16

Figure 30. MS27468T17B99S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(821-79)01-CATI

Reference Designation to Backshell Data Index for MS27468T21B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-P055	M85049/46W20	070 00

Table 1. Tool Data

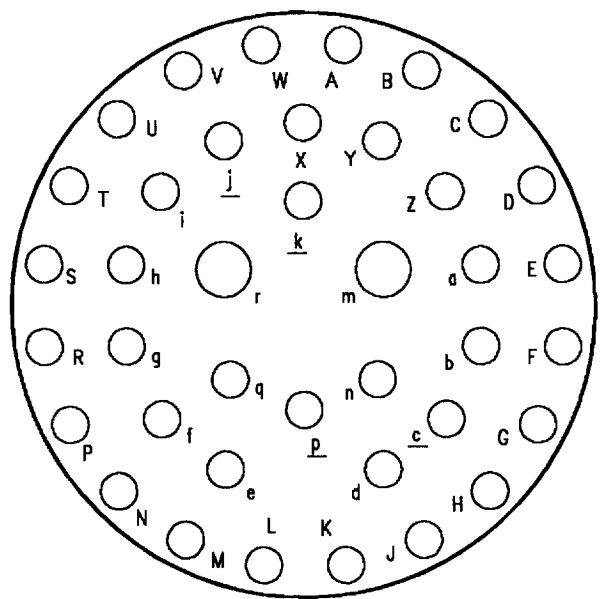
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 31. MS27468T21B35S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	5/32	M39029/56-348	MS27488-22

Figure 31. MS27468T21B35S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(821-39)01-CATI

Reference Designation to Backshell Data Index for MS27468T21B39S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-R116	M85049/45W20	070 00
 F/A-18A F/A-18B 161354 THRU 161947, AND 162836 AND UP.		

Table 1. Tool Data

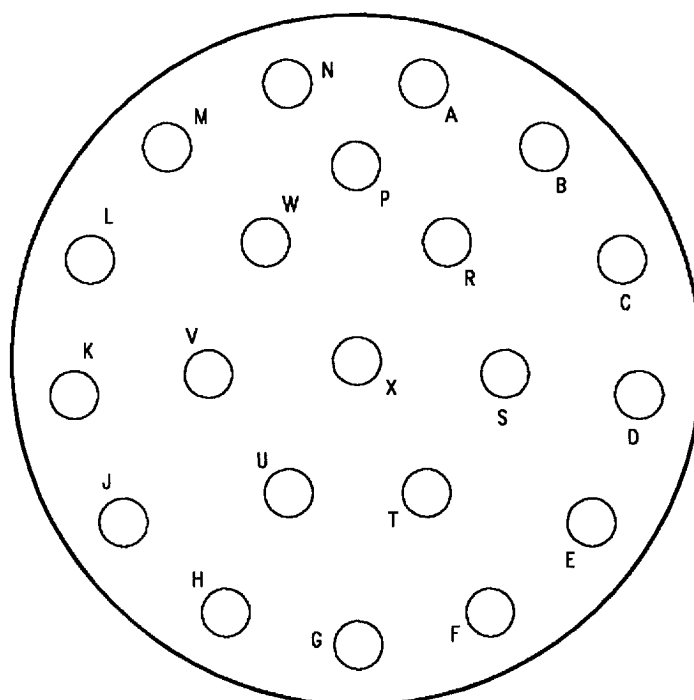
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK106-16-2
Removal Tool Probe (Red)	DRK106-20-2

Figure 32. MS27468T21B39S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU k, n, p and q, m AND r	7/32	M39029/56-351	MS27488-20 6
	7/32	M39029/56-352	MS27488-1

Figure 32. MS27468T21B39S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-21)01-CATI

Reference Designation to Backshell Data Index for MS27468T23B21S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F001	M85049/46W22	070 00

Table 1. Tool Data

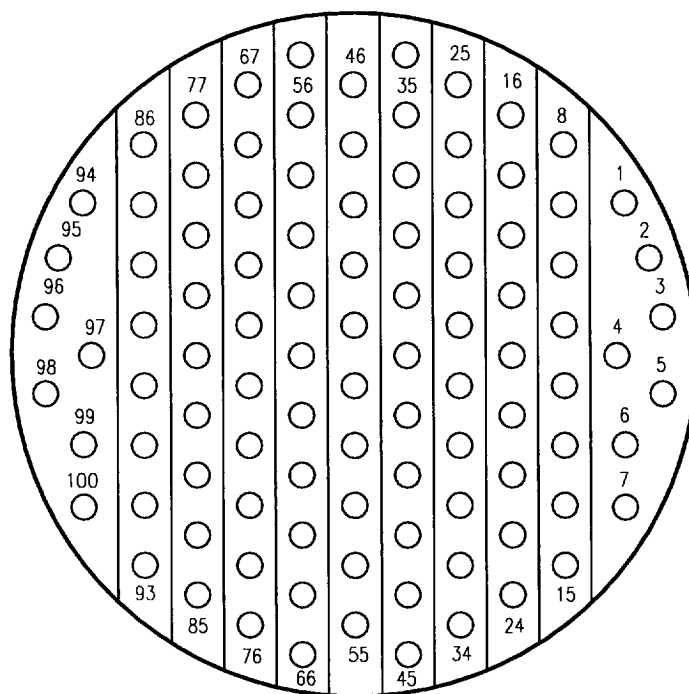
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK106-16-2

Figure 33. MS27468T23B21S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU X	7/32	M39029/56-352	MS27488-16

Figure 33. MS27468T23B21S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-35)01-CATI

Reference Designation to Backshell Data Index for MS27468T23B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-P054	M85049/45W22	070 00
84J-R057	M85049/45W22	070 00

Reference Designation to Backshell Data Index for MS27468T23B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F003	M85049/46W22	070 00
52J-P111	M85049/45W22	070 00
F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP.		

Reference Designation to Backshell Data Index for MS27468T23B35PB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F006	M85049/46W22	070 00
F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP.		

Figure 34. MS27468T23B35P, MS27468T23B35PA, and MS27468T23B35PB Connectors (Sheet 1)

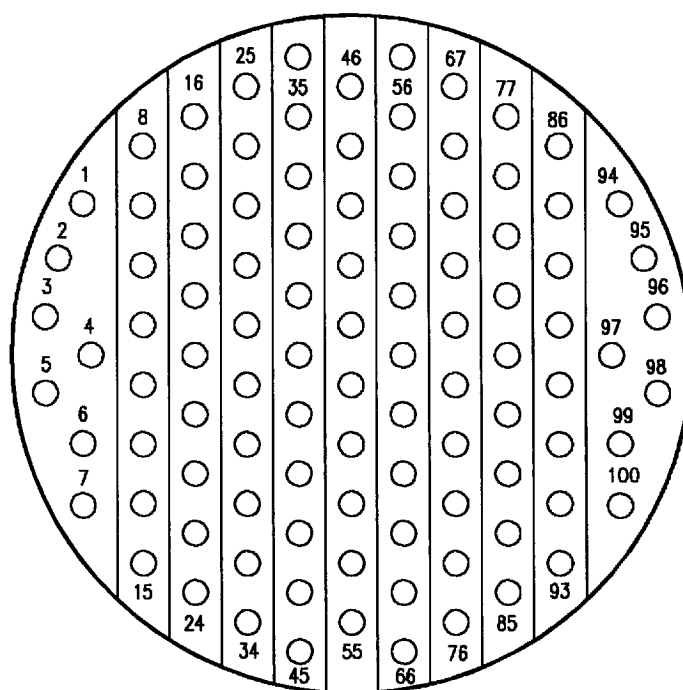
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	5/32	M39029/58-360	MS27488-22

Figure 34. MS27468T23B35P, MS27468T23B35PA, and MS27468T23B35PB
Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-35)01-CATI

Reference Designation to Backshell Data Index for MS27468T23B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-R058	M85049/46W22	070 00

Table 1. Tool Data

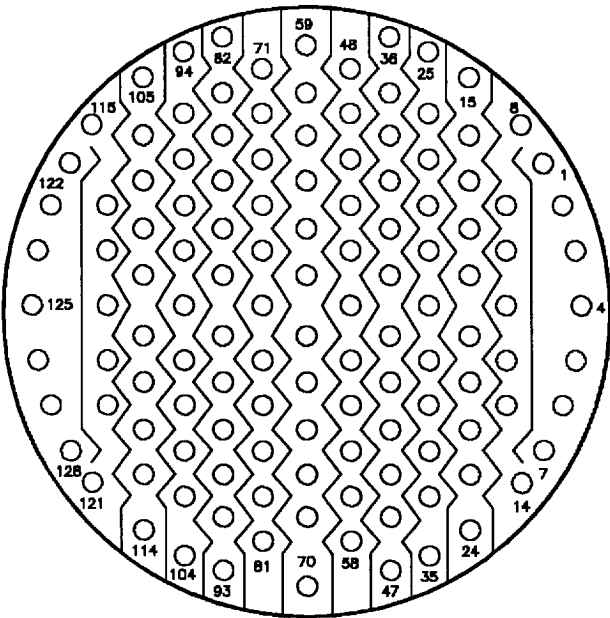
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 35. MS27468T23B35S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	5/32	M39029/56-348	MS27488 22

Figure 35. MS27468T23B35S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-128)01-CATI

Reference Designation to Backshell Data Index for MS27468T25B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
84J-F046	M85049/46W24	070 00

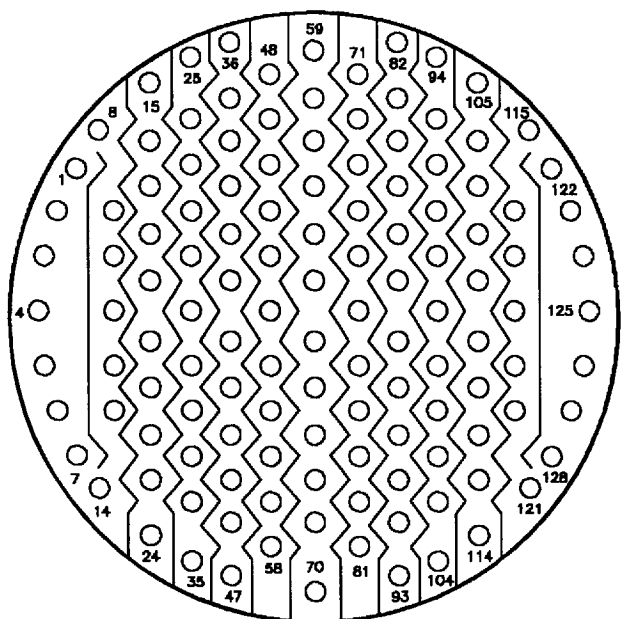
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 36. MS27468T25B35PA Connector (Sheet 1)

Table 2. ContactData

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 128	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-128)01-CATI

Reference Designation to Backshell Data Index for MS27468T25B35S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-P110	M85049/45W24	070 00
 52J-R113	M85049/45W24	070 00
84J-F042	M85049/46W24	070 00
84J-P053	M85049/46W24	070 00
84J-R056	M85049/46W24	070 00
 F/A-18A; F/A-18B 161354 THRU 161947, 162836 AND UP		

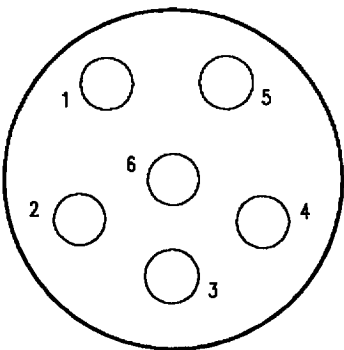
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 37. MS27468T25B35S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 128	5/32	M39029/56-348	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(909-6)01-CATI

Reference Designation to Backshell Data Index for MS27468T9B35P Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 7J-S048	None	None
 161362 AND UP.		

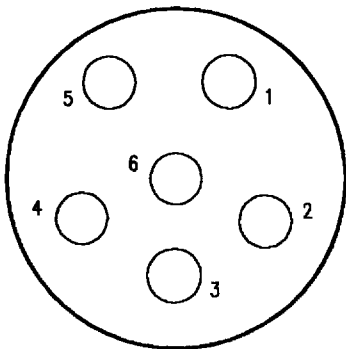
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/58-360	MS27488-22

Figure 38. MS27468T9B35P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(809-6)01-CATI

Reference Designation to Backshell Data Index for MS27468T9B35S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 18J-T014	M85049/45W8	070 00
 162826 AND UP.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	7/32	M39029/56-348	MS27488-22

Figure 39. MS27468T9B35S Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

WIRING REPAIR WITH PARTS DATA

MS27473 (MIL-C-38999 SERIES 2) CONNECTOR REPAIR

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Utility Battery and Charger Unit or Utility Battery	WP019 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Protective Boot Installation for Environmental Type Connectors With	
Molded Plastic Cable Clamps	WP070 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Removal and Installation of Turret Head	8
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

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

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 54	5 May 1987	Incorporation of Video Recording Set	1 Oct 93	-

Reference Designation to
Figure Number Index

Reference Designation	Figure No.
1P-C023	22
1P-D024	22
61P-W209	21
61P-Y205	21
78P-E001A	23
 79P-E021B	24
 79P-L021B	24

Reference Designation to Figure
Number Index (Continued)

Reference Designation	Figure No.
LEGEND	
 F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54.	
 F/A-18B 161704 AND UP; ALSO 161354 THRU 161360 AFTER F18 AFC 54.	

1. DESCRIPTION.

2. The MIL-C-38999, Series 2, electrical connectors are bayonet coupling, circular environmental resistant type connectors. They are low silhouette design for minimum size and weight with a highdensity contact layout. The Series 2 connector has a scoop-proof design. These connectors provide electrical continuity between mated shells before contact engagement and have the contacts located to be protected from handling damage and inadvertent electrical contact.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-38999, Series 2, connectors used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

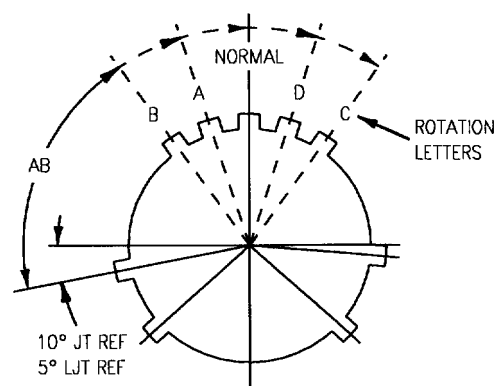
MS27473T18B32PA

MS NO. _____	CLASS _____	SHELL SIZE _____	FINISH (COLOR) _____	INSERT ARRANGEMENT NO. _____	STYLE _____
	E-ENVIRONMENT WITH REAR HARDWARE T-ENVIRONMENT WITHOUT REAR HARDWARE	8, 10, 12, 14, 16, 18, 20, 22, 24	A-BRIGHT CADMIUM PLATE OVER NICKEL B-OLIVE DRAB CADMIUM PLATE	6, 16, 21, 32, 35, 44, 97	P-PIN S-SOCKET

POLARIZATION, NO LETTER REQUIRED IF NORMAL

A PLUG WITH A GIVEN ROTATION LETTER WILL MATE WITH A RECEPTACLE WITH THE SAME ROTATION LETTER. THE AB ANGLE FOR A GIVEN CONNECTOR IS THE SAME WHETHER IT CONTAINS PINS OR SOCKETS. INSERTS ARE NOT ROTATED WITH THE MASTER KEY/KEYWAY.

AB ANGLES SHOWN ARE VIEWED FROM THE FRONT FACE OF THE CONNECTOR, A RECEPTACLE IS SHOWN BELOW. THE ANGLES FOR THE PLUG ARE IDENTICAL EXCEPT THE DIRECTION OF ROTATION IS OPPOSITE OF THAT SHOWN FOR THE RECEPTACLE.



RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY.
(FRONT FACE OF RECEPTACLE SHOWN)

SERIES 2 MASTER KEY/KEYWAY ROTATION

AB ANGLE OF ROTATION (DEGREES)					
SHELL SIZE	NORMAL	A	B	C	D
8	100°	82°	-	-	118°
10	100°	86°	72°	128°	114°
12	100°	80°	68°	132°	120°
14	100°	79°	66°	134°	121°
16	100°	82°	70°	130°	118°
18	100°	82°	70°	130°	118°
20	100°	82°	70°	130°	118°
22	100°	85°	74°	126°	115°
24	100°	85°	74°	126°	115°

F/A-18-WRM-(200-2)02-CATI

Figure 1. Military Part Numbering System for MIL-C-38999, Series 2, Connectors

5. CORROSION CONTROL

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1- F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

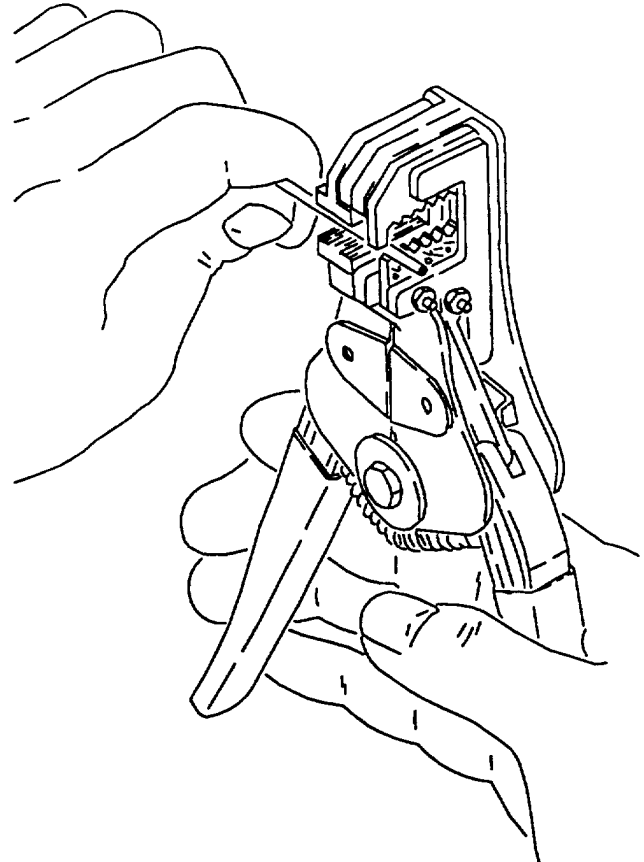
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

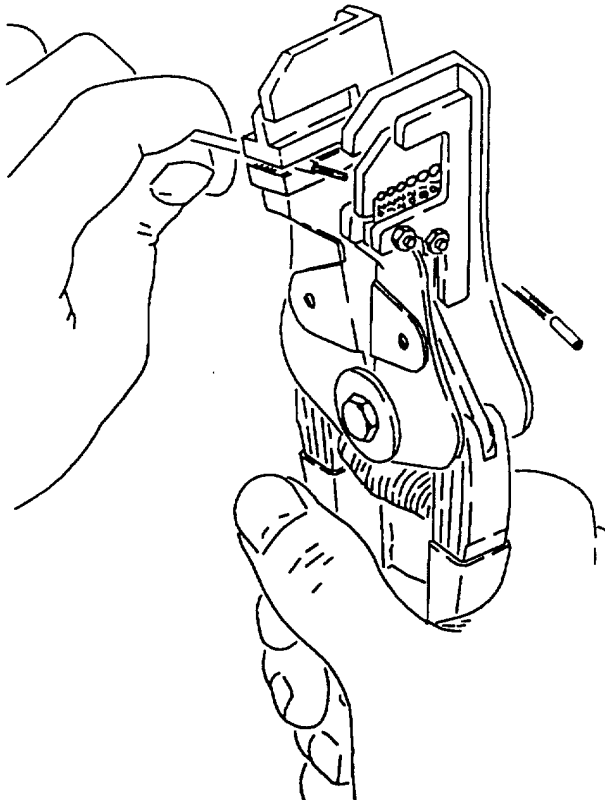
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

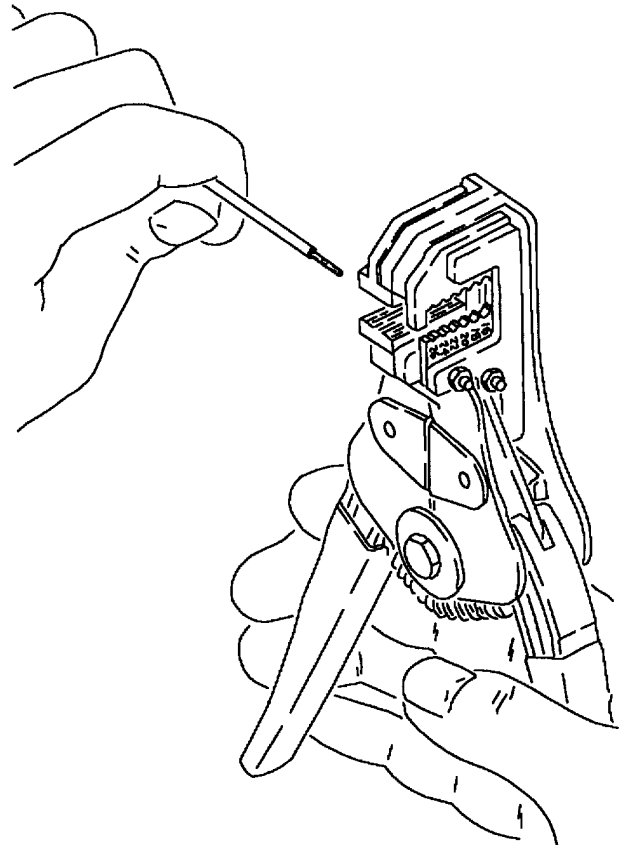
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

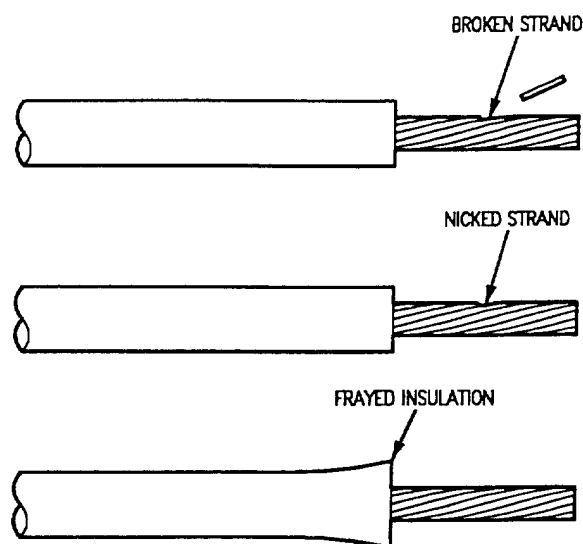


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

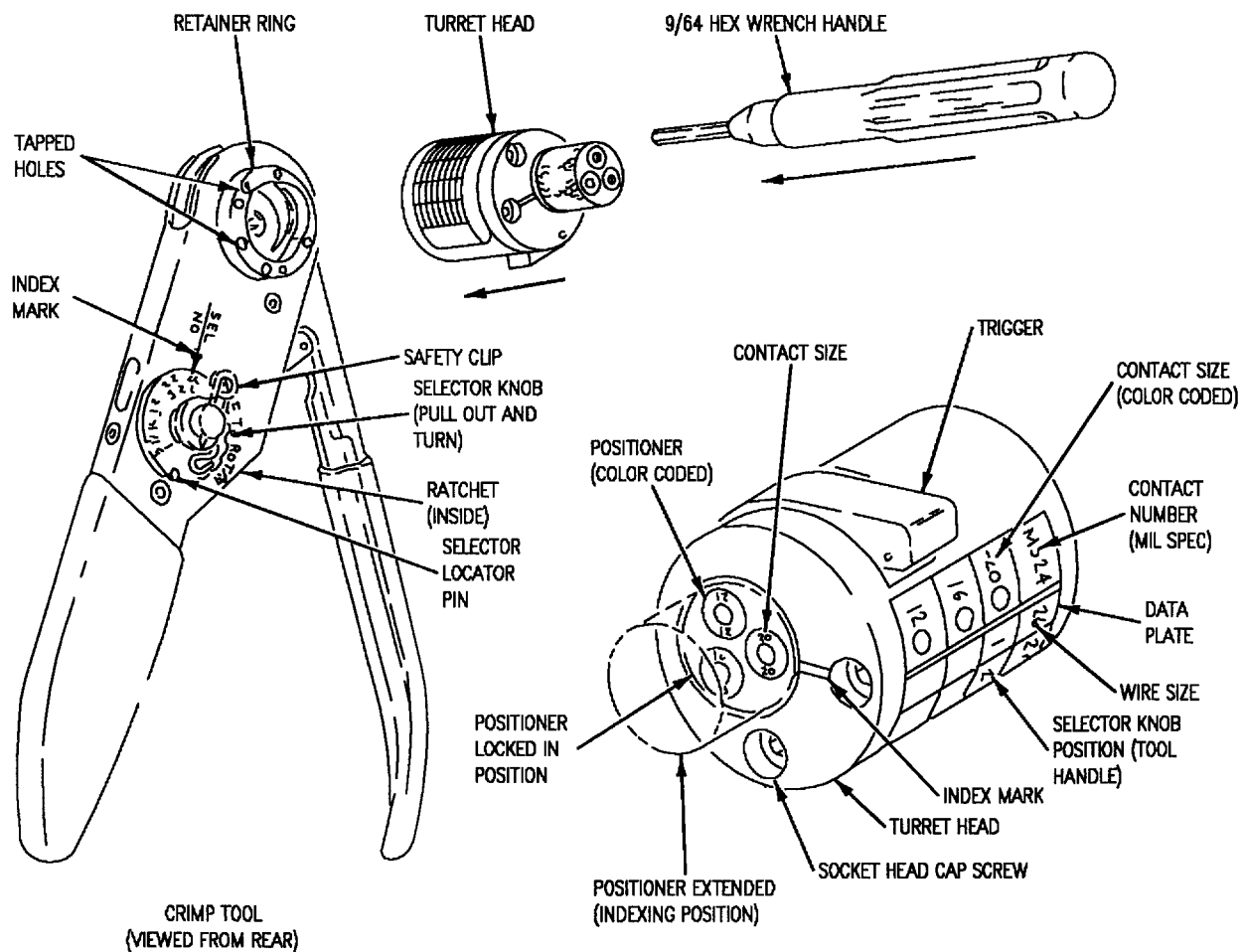
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes, open handles completely and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

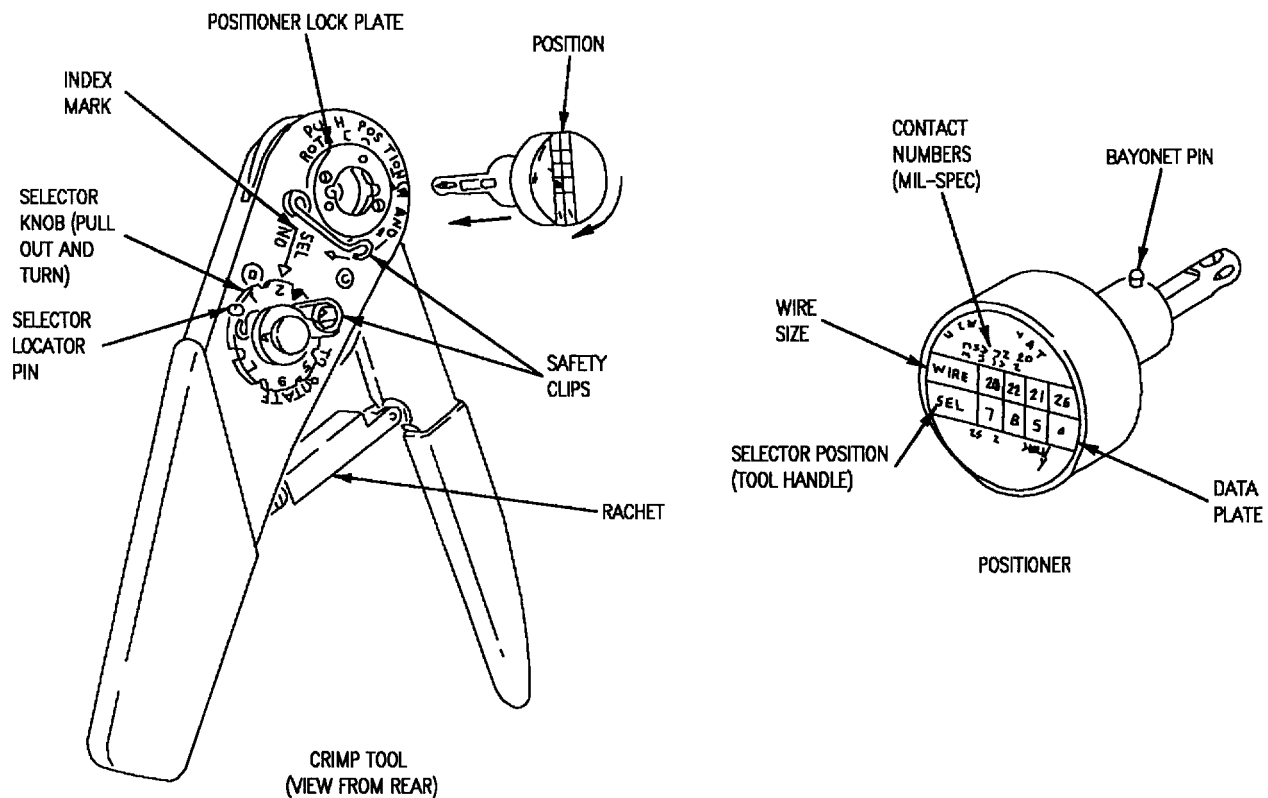
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

c. Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1- F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 8.

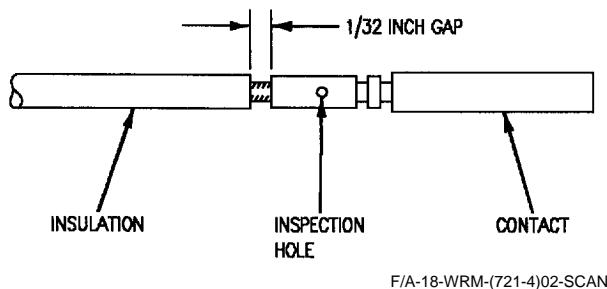


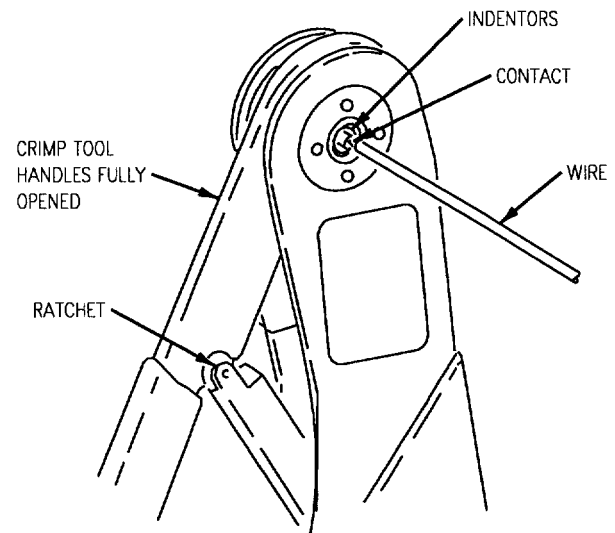
Figure 8. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

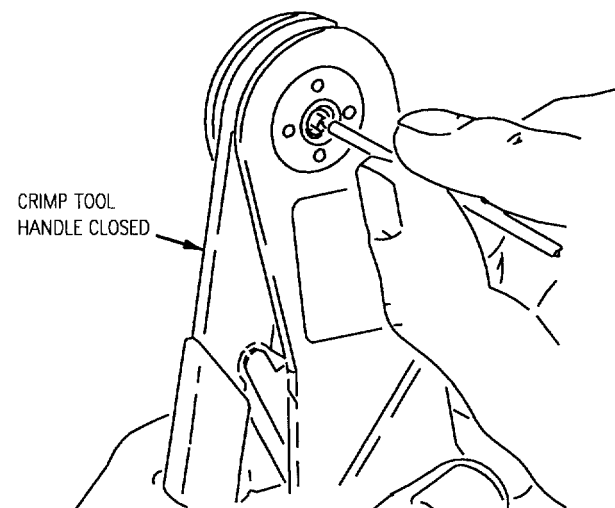
NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

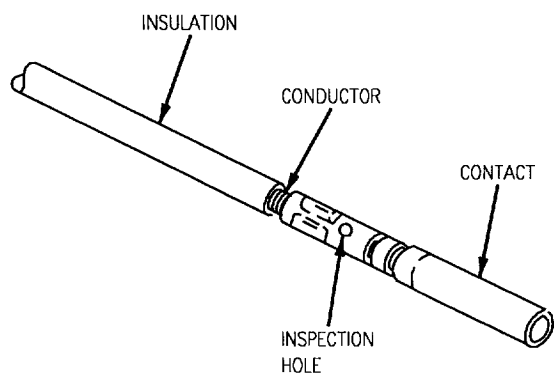
Figure 9. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10:

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(721-6)02-CATI

Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

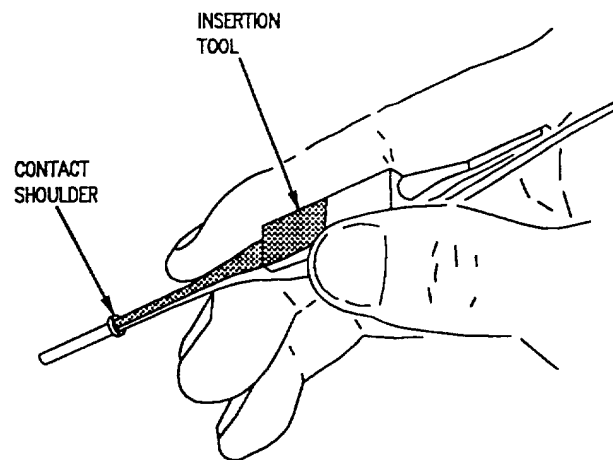
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 11.



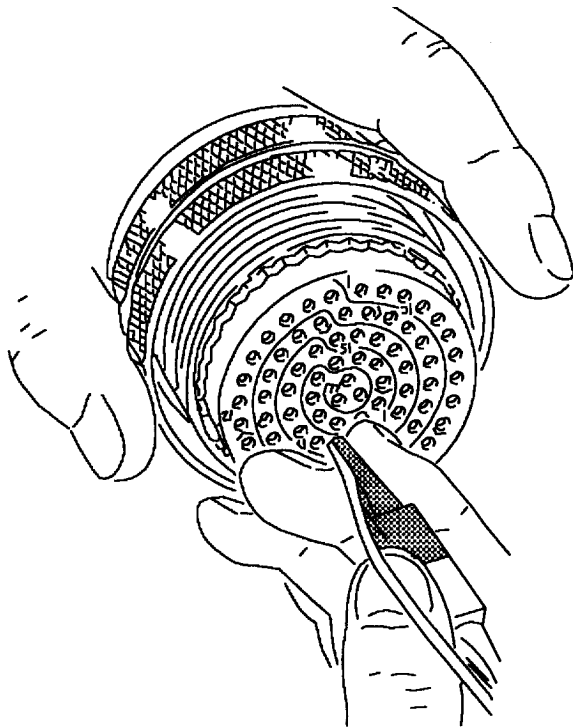
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 12.

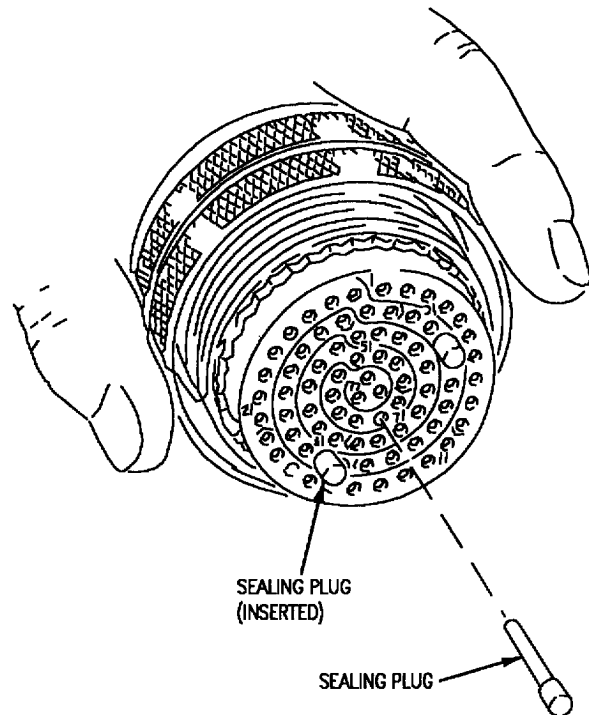


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Figure 12. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.



F/A-18-WRM-(211-2)02-SCAN

Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1- F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work page listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

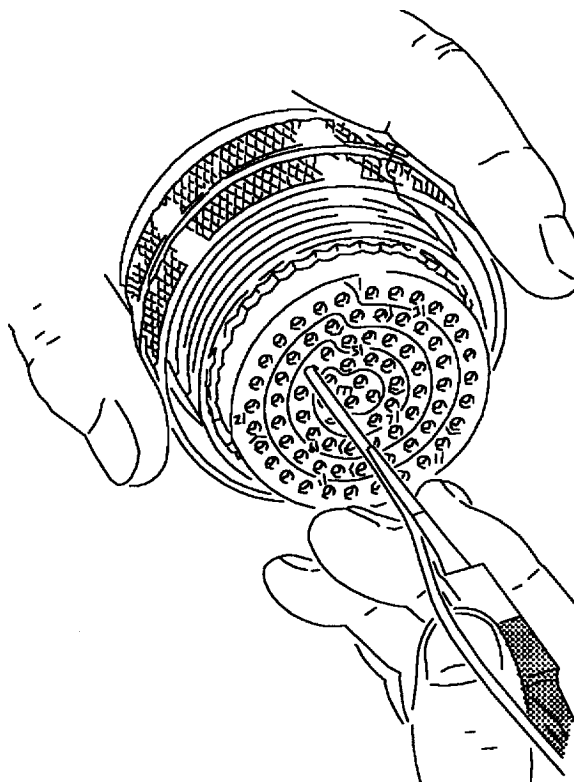
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

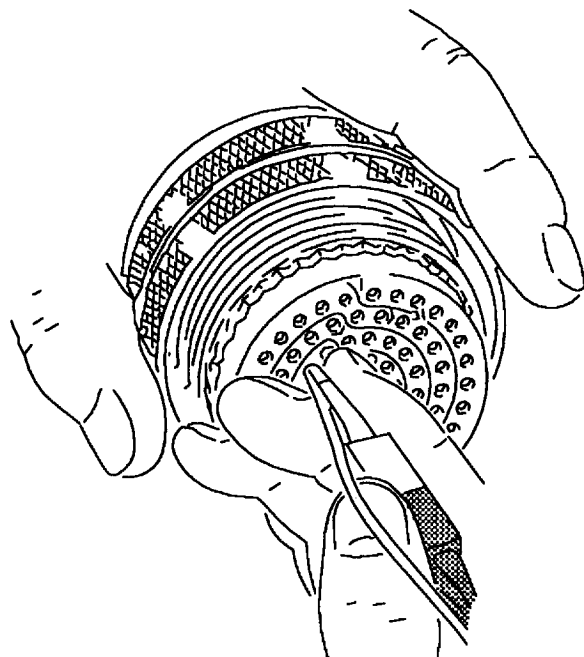
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.



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Figure 14. Removal Tool on Wire

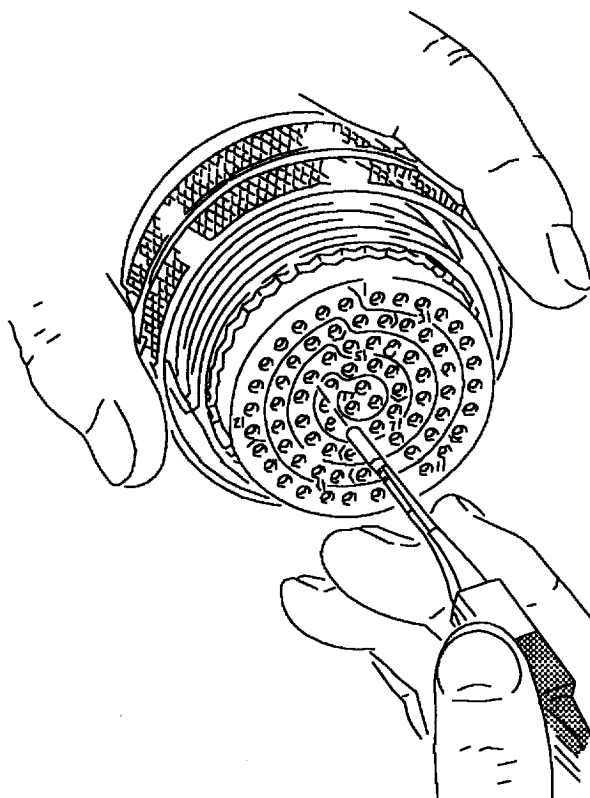
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.



F/A-18-WRM-(211-4)02-SCAN

Figure 15. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



F/A-18-WRM-(211-5)02-SCAN

Figure 16. Removing Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

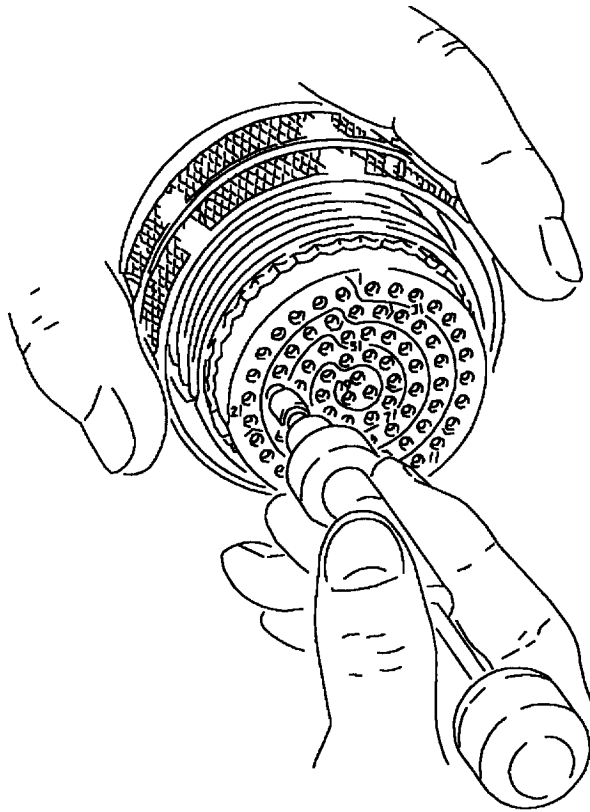
c. Align unwired removal tool at the rear and at a right angle to connector with contact to be removed.



Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

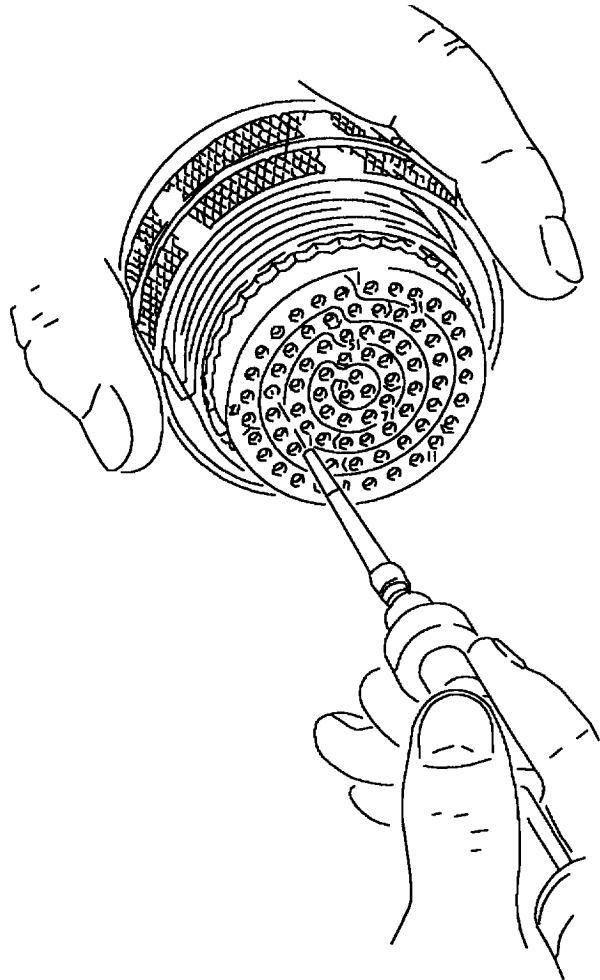
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 17.



F/A-18-WRM-(211-8)02-SCAN

Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



F/A-18-WRM-(211-7)02-SCAN

Figure 18. Extracting Contact from Connector

g. Remove contact by holding Unwired Removal tool and press plunger forward.

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1- F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

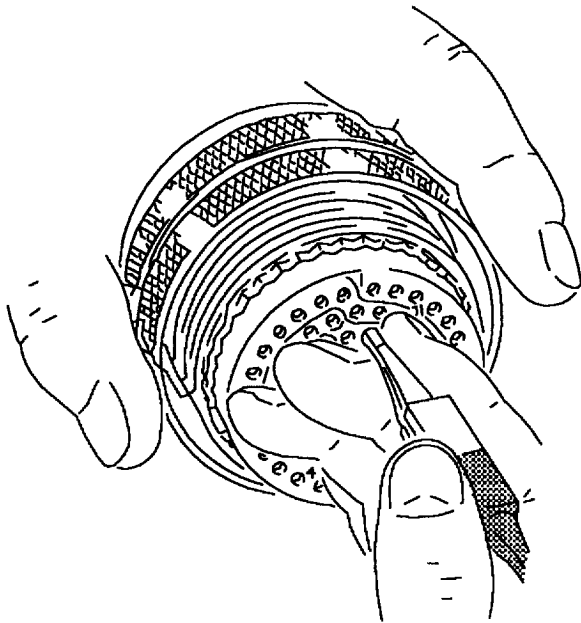
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



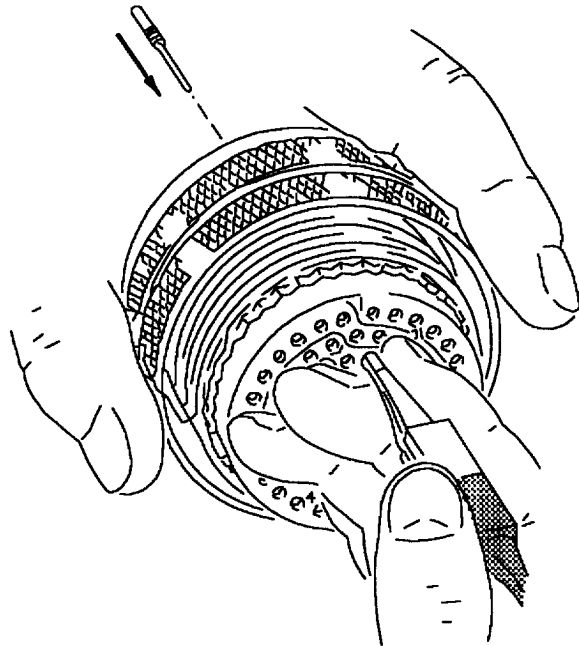
F/A-18-WRM-(211-8)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

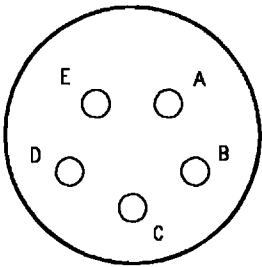
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



F/A-18-WRM-(211-9)02-SCAN

Figure 20. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(810-5)01-CATI

Reference Designation to Backshell Data Index for MS27473T10B5S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-W209 61P-Y205	M85049/45W10 G7056-11-NF	070 00 060 00

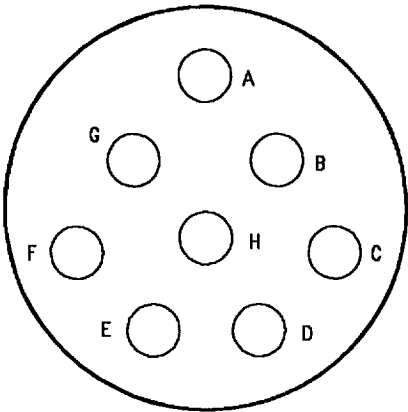
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU E	5/32	M39029/57-357	MS27488-20

Figure 21. MS27473T10B5S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-8)01-CATI

Reference Designation to Backshell Data Index for MS27473T16B8S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1P-C023	M85049/46W16	070 00
1P-D024	M85049/46W16	070 00

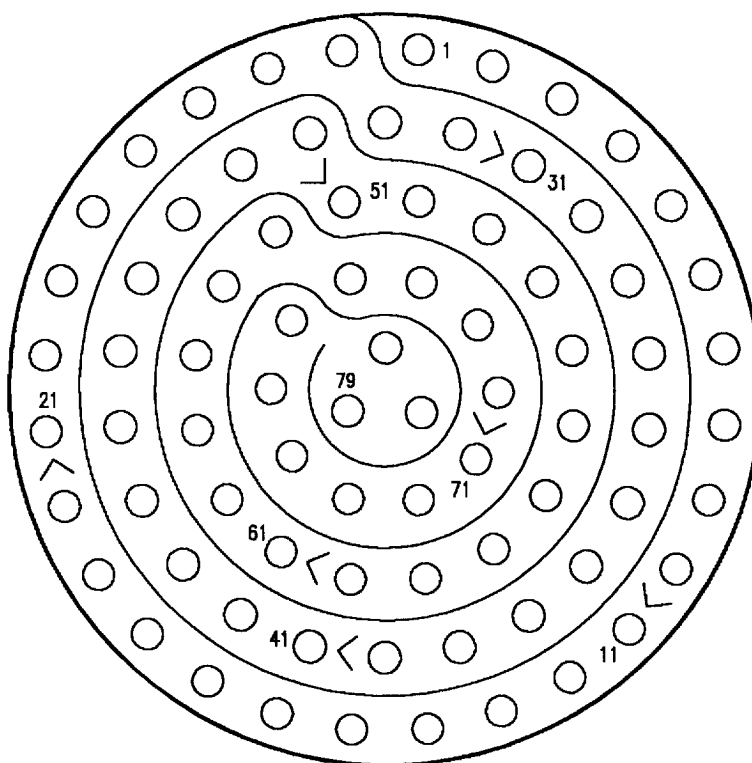
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H	7/32	M39029/57-358	MS27488-16

Figure 22. MS27473T16B8S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(821-79)01-CATI

Reference Designation to Backshell Data Index for MS27473T20B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
78P-E001A	M89049/46W20	070 00

Table 1. Tool Data

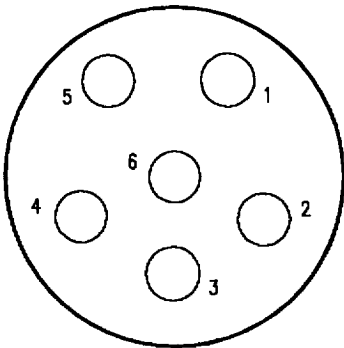
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-06
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 23. MS27473T20B35S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	5/32	M39029/57-354	MS27488-22

Figure 23. MS27473T20B35S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(809-6)01-CATI

Reference Designation to Backshell Data Index for MS27473T8B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>2</div> 79P-E021B	M85049/45W8	070 00
<div>1</div> 79P-L021B	M85049/45W8	070 00
<div>1</div> F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54.		
<div>2</div> F/A-18B 161704 AND UP; ALSO 161354 THRU 161360 AFTER F18 AFC 54.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-06
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/57-354	MS27488-22

Figure 24. MS27473T8B35S Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE
WIRING REPAIR WITH PARTS DATA**LJT01RTXX-XXX014 and MS27656 (MIL-C-38999 SERIES 1)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Expando Sleeve Installation for Environmental Type Connectors With	
Molded Plastic Cable Clamps	WP070 00
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Protective Boot Installation for Environmental Type Connectors With	
Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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














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















Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 27	08 Nov 89	Improvement of Leading Edge Flap Design (EXP MDA-F/A-18-00044)	1 Sep 86	-
F18 AFC 48	8 Apr 86	Alternating Current Bus Isolation (ECP MDA-F/A-18-00121)	1 Sep 86	-
F18 AFC 49	31 Jan 86	Addition of Sealed Lead Acid Battery (ECP MDA-F/A-18-00074)	1 Sep 86	-
F18 AFC 53	-	Elimination of Tanks 1 and 4 Sneak Circuit, Tank 4 Motive flow Shutoff Valve, and Raised Inverted Baffle (ECP MDA-F/A-18-0005/C1)	1 Sep 86	-
F/A-18 AFC 54	05 May 87	Incorporation of Video Recorder Set	1 Oct 93	-












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























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



















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







Reference Designation to Figure Number Index (Continued)

Reference Designation	Figure No.
52J-V153	27
 52J-Y312A	35
60J-A001A	53
60J-A001B	49
61J-A120	39
 61J-F034	32
 61J-J022C	21
61J-J033	32
 61J-K237	21
 61J-L217	21
61J-P110A	45
61J-P110B	24
 61J-R034	31
 61J-R111A	24
 61J-R111B	34
61J-W024	53
61J-W093	49
61J-W095A	58
61J-W095B	50
61J-W112	49
61J-W210	22
61J-W239	61
 61J-Y200A	27
 61J-Y200B	50
 61J-Y206	22
 62J-A030E	61
 62J-B029E	61
 62J-J007	32
 64J-E001F	50
 7J-S048	60
7J-U042	62
7J-V043	62
70J-A003	32
70J-B004	32
75J-N001	22
76J-B023A	21
76J-J003	22
 76J-K032	31
 79J-E023	23
 79J-L023	23
 79J-L024	22
8J-J002	31
 8J-L098	31
 80J-K023	23
83J-G003	32
 83J-Y013	23
 84J-C026B	24


















Reference Designation to Figure Number Index (Continued)

Reference Designation	Figure No.
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 3 84J-E041	55
84J-E044	55
 3 84J-E045	54
84J-E048	54
 3 84J-F043	55
 3 84J-F047	54
84J-H023	22
84J-H024	22
 3 84J-H031	35
 6 84J-H031	46
84J-H034	35
84J-H092	26
84J-J025A	24
84J-J025B	24
 3 84J-J032	35
 6 84J-J032	46
84J-J033	35
84J-J093	26
84J-J104	21
 24 84J-J122A	24
 24 84J-J122B	24
 6 84J-K092	26
 6 84J-K094	31
 6 84J-L095	31
 6 84J-L097A	24
 6 84J-L097B	24
84J-M051	36
84J-N052	36
 6 84J-P041	54
 3 84J-P045	55
 6 84J-R043	54
 3 84J-R047	55
85J-F007	31

LEGEND

 1	161353 THRU 161359.
 2	161353 THRU 161528 BEFORE F18 AFC 41.
 3	F/A-18A
 4	161360 AND UP.
 5	161702 AND UP.
 6	F/A-18B
 7	161925 AND UP.
 8	F/A-18B 163104 AND UP.

Reference Designation to Figure Number Index (Continued)

Reference Designation	Figure No.
 9 F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54.	
 10 F/A-18A 161702 AND UP.	
 11 F/A-18B 161704 AND UP.	
 12 161353 THRU 162444.	
 13 162445 AND UP.	
 14 162394 AND UP.	
 15 161520 AND UP.	
 16 161360 AND UP; ALSO 161353 THRU 161359 AFTER F18 AFC 53.	
 17 F/A-18B, F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54.	
 18 161520 AND UP; ALSO F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.	
 19 161353 THRU 161361.	
 20 161737 AND UP.	
 21 161353 THRU 161519.	
 22 161353 THRU 161761, AND 161924.	
 23 F/A-18A, F/A-18B 161354 THRU 161947, 162836 AND UP.	
 24 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27.	
 25 162394 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 49, AND 161702 THRU 161987 AFTER F18 AFC 48.	

1. DESCRIPTION.

2. The MIL-C-38999, Series 1, electrical connectors are bayonet coupling, circular environmental resistant type connectors. They are low silhouette design for minimum size and weight with a high density contact layout. The Series 1 connector has a scoop-proof design. These connectors provide electrical continuity between mated shells before contact engagement and have the contacts located to be protected from handling damage and inadvertent electrical contact.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-38999, Series 1, connectors used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

MS27656T15B35PA

MS NO. _____

CLASS _____

E-ENVIRONMENT WITH REAR HARDWARE
T-ENVIRONMENT WITHOUT REAR HARDWARE

SHELL SIZE _____

9, 11, 13, 15, 17, 19, 21, 23, 25

FINISH (COLOR) _____

A-BRIGHT CADMIUM PLATE OVER NICKEL
B-OLIVE DRAB CADMIUM PLATE

INSERT ARRANGEMENT NO. _____

4, 5, 6, 8, 11, 15, 16, 18, 24, 26, 29, 35, 39, 41,
61, 97, 98, 99

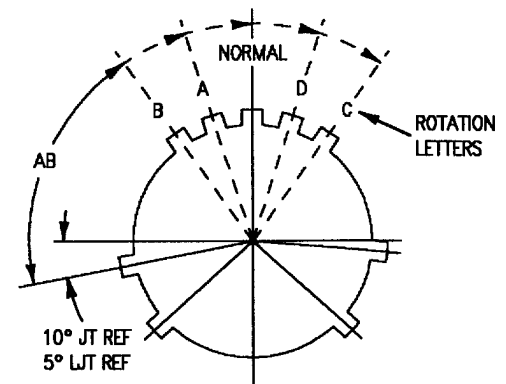
STYLE _____

P-PIN
S-SOCKET

POLARIZATION, NO LETTER REQUIRED IF NORMAL

A PLUG WITH A GIVEN ROTATION LETTER WILL MATE WITH A RECEPTACLE WITH THE SAME ROTATION LETTER. THE AB ANGLE FOR A GIVEN CONNECTOR IS THE SAME WHETHER IT CONTAINS PINS OR SOCKETS. INSERTS ARE NOT ROTATED IN CONJUNCTION WITH THE MASTER KEY/KEYWAY.

AB ANGLES SHOWN ARE VIEWED FROM THE FRONT FACE OF THE CONNECTOR, A RECEPTACLE IS SHOWN BELOW. THE ANGLES FOR THE PLUG ARE IDENTICAL EXCEPT THE DIRECTION OF ROTATION IS OPPOSITE OF THAT SHOWN FOR THE RECEPTACLE.



RELATIVE POSSIBLE POSITION
OF ROTATED MASTER KEYWAY.
(FRONT FACE OF RECEPTACLE SHOWN)

SERIES 1 MASTER KEY/KEYWAY ROTATION

SHELL SIZE	AB ANGLE OF ROTATION (DEGREES)				
	NORMAL	A	B	C	D
9	95°	77°	-	-	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	118°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

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Figure 1. Military Part System for MIL-C-38999, Series 1, Connectors

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

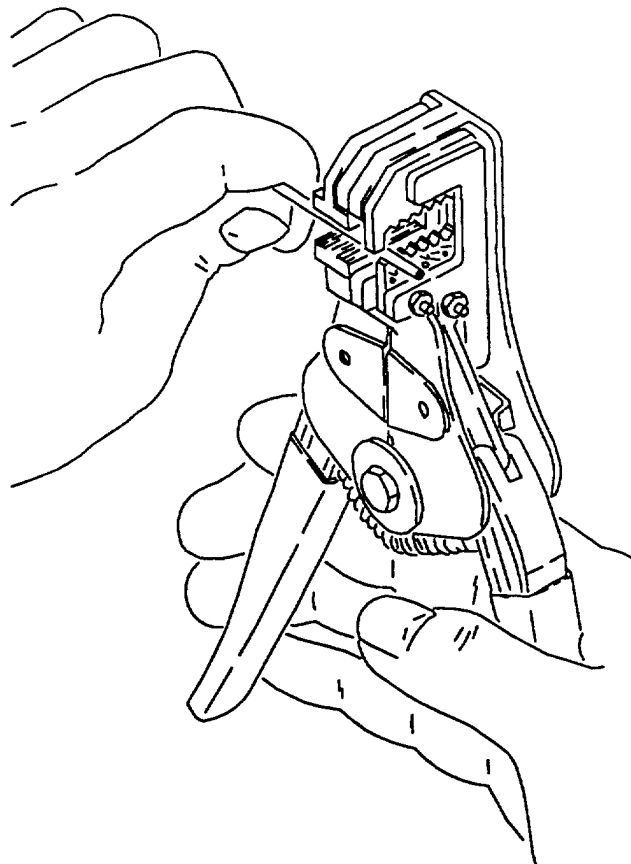
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

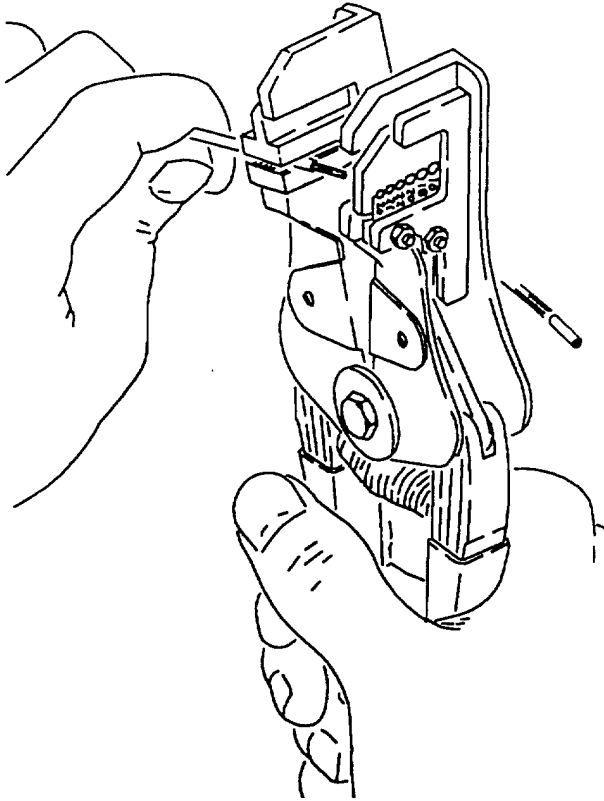
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



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Figure 2. Placing Wire in Slot of Stripping Tool

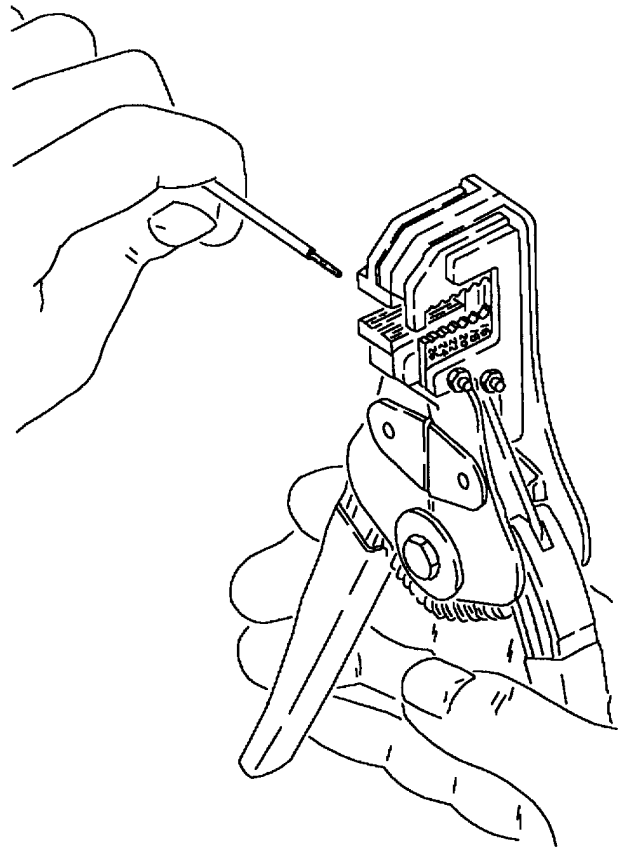
e. Close handles together as far as they will go.
See figure 3.



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Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.



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Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

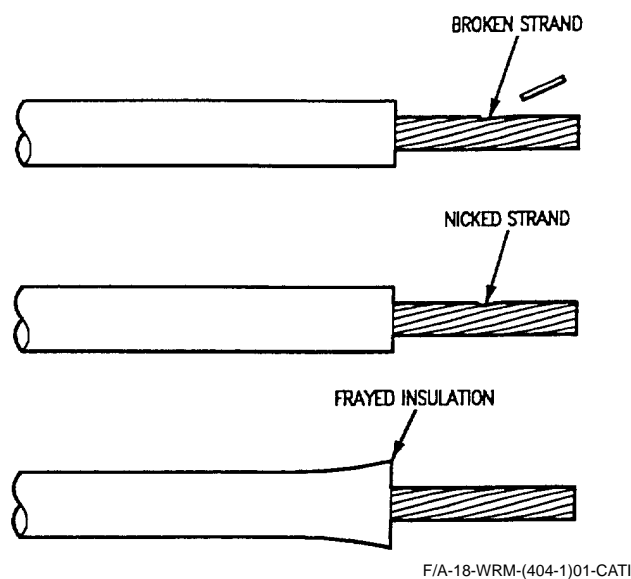


Figure 5. Unacceptable Conditions

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

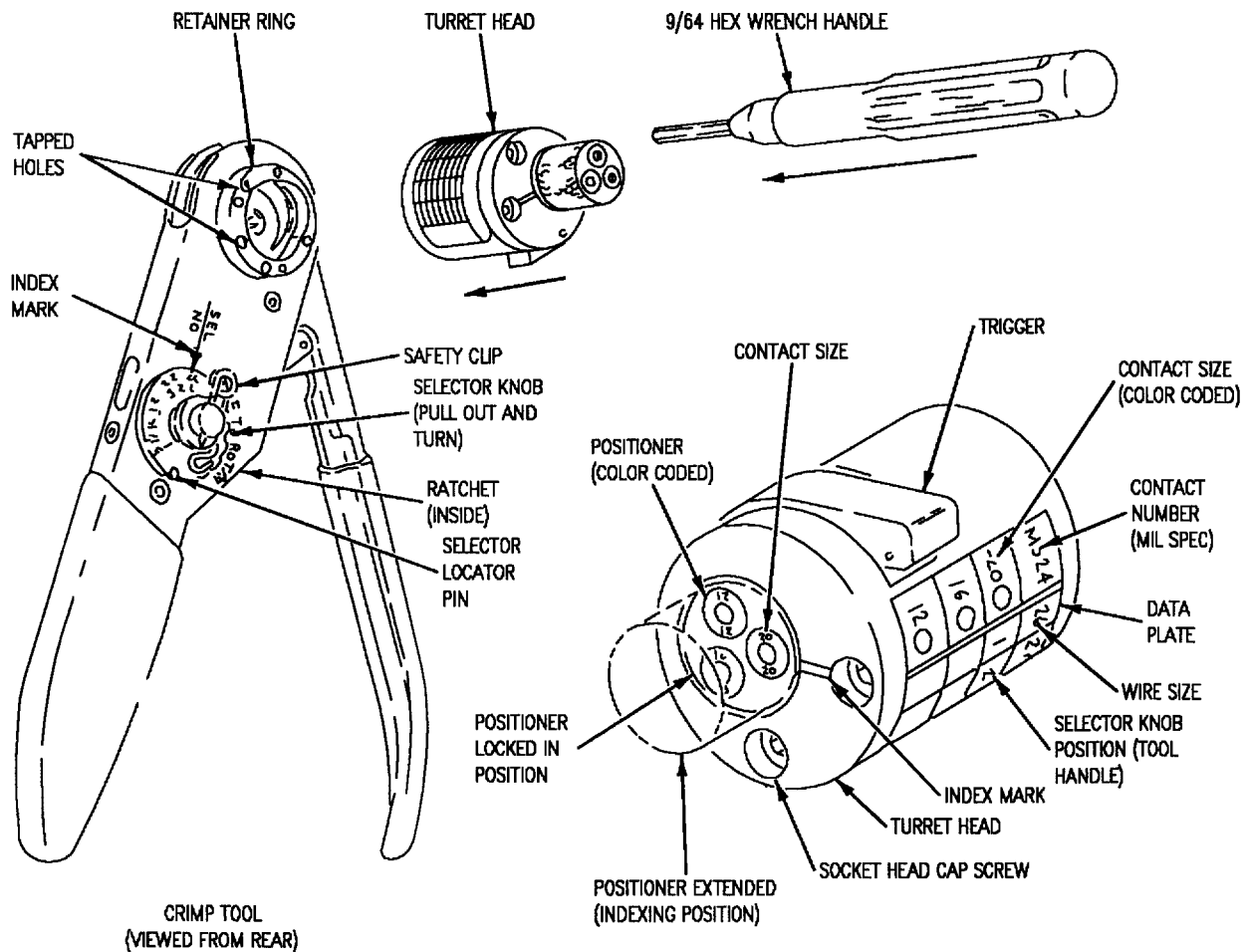
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench, tool case location (509).

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes, open handles completely and lift off crimp tool.



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Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

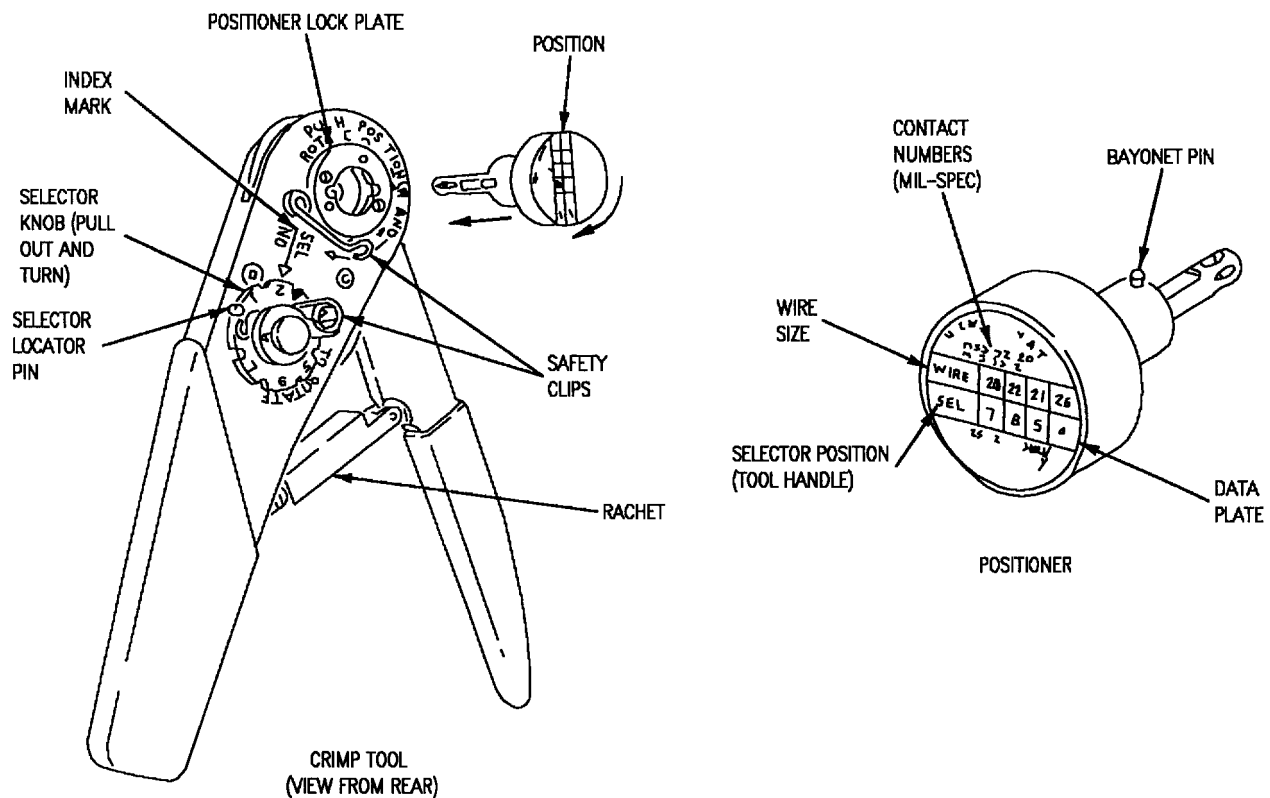
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

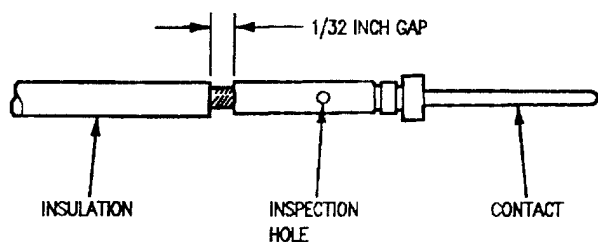
- Locate wire size on data plate of positioner and note corresponding selector number.
- Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1- F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- Select correct contact specified in table 2 for affected connector part number.
- Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- Visually inspect gap dimension between contact and insulation as shown in figure 8.



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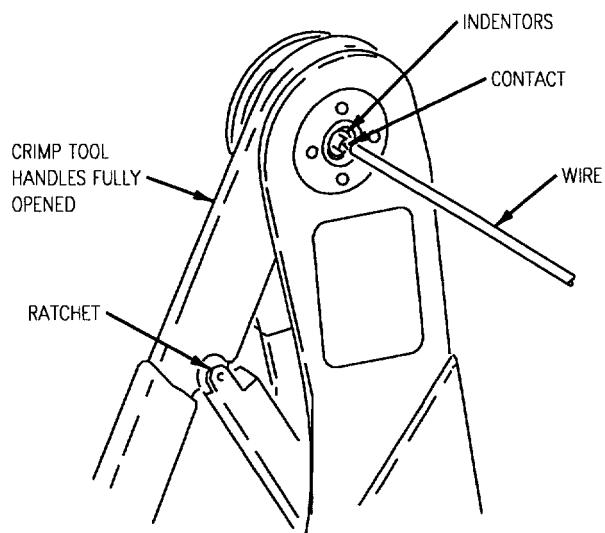
Figure 8. Strip Gap Check

- Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

NOTE

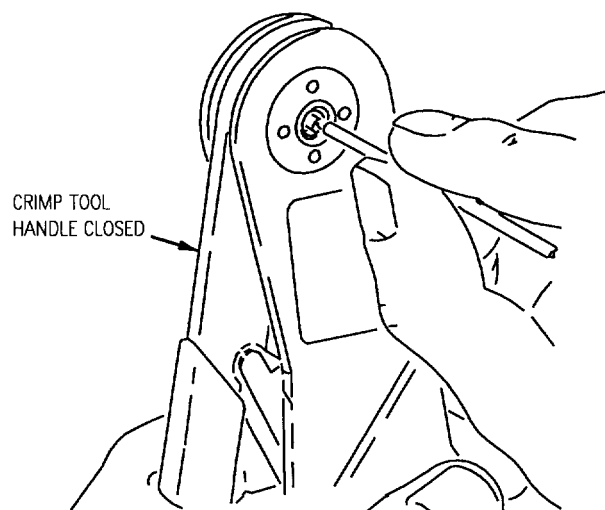
Crimp tool will not release until crimping cycle is completed.

- Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

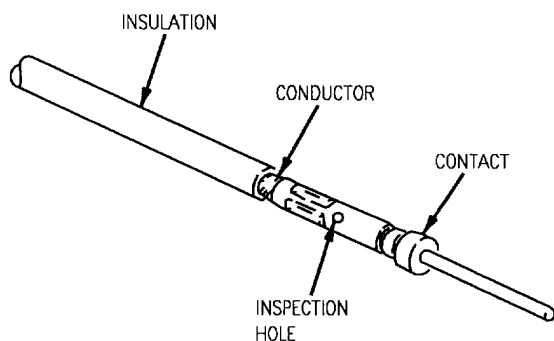
Figure 9. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



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Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

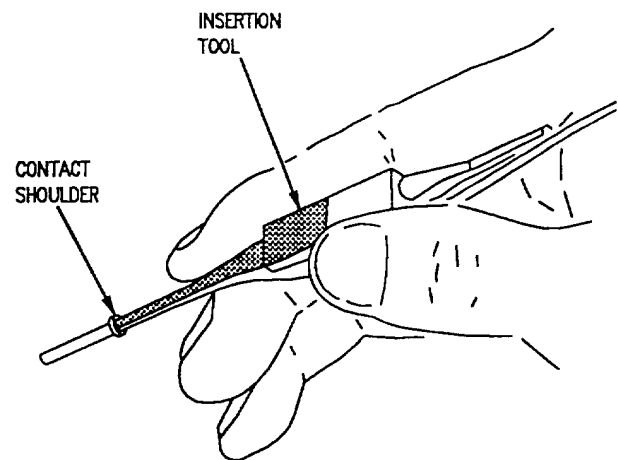
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 11.



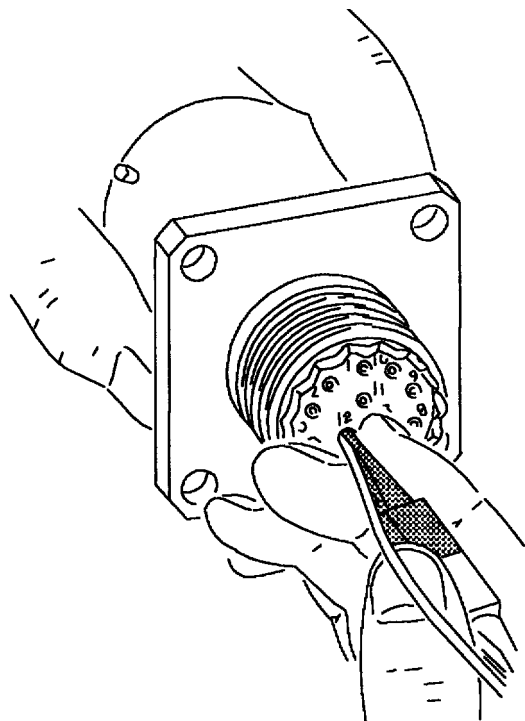
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention lines snap into place behind contact shoulder. See figure 12.

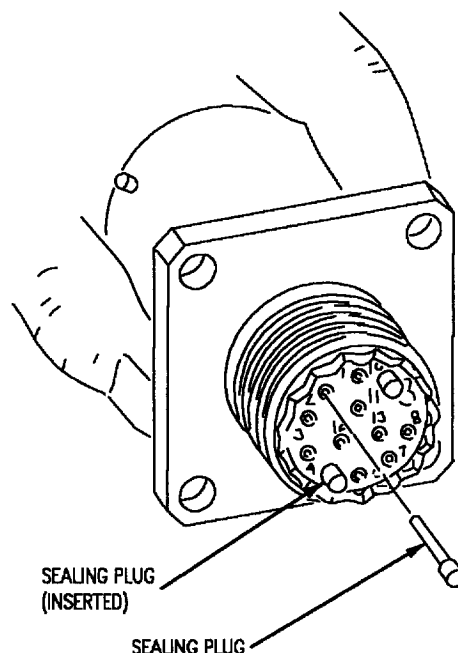


F/A-18-WRM-(315-1)02-SCAN

Figure 12. Inserting Contacts into Connectors

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.



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Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

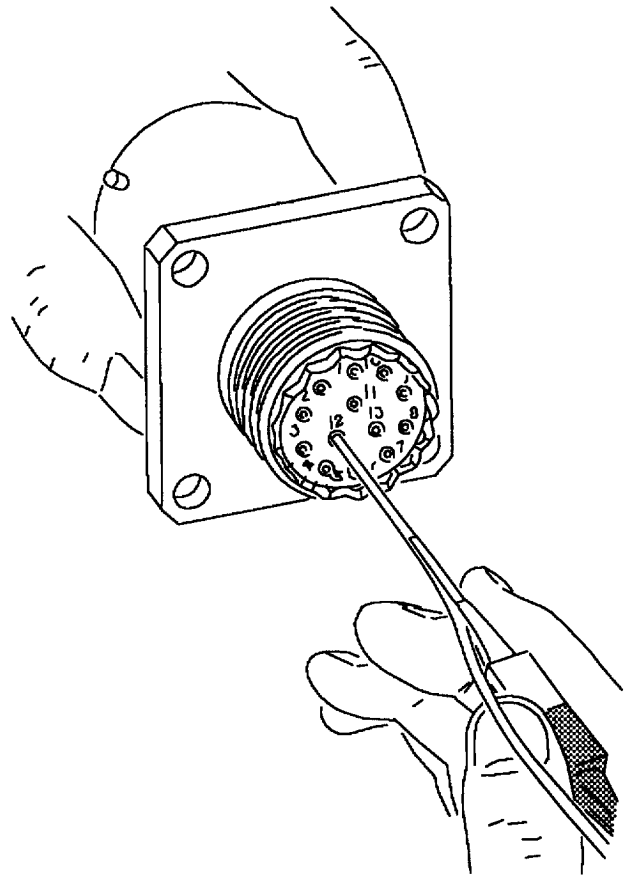
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.

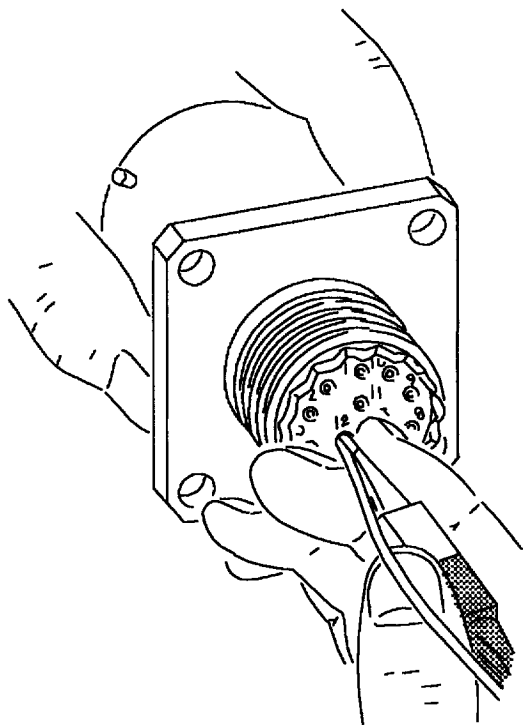


F/A-18-WRM-(315-3)02-SCAN

Figure 14. Removal Tool on Wire

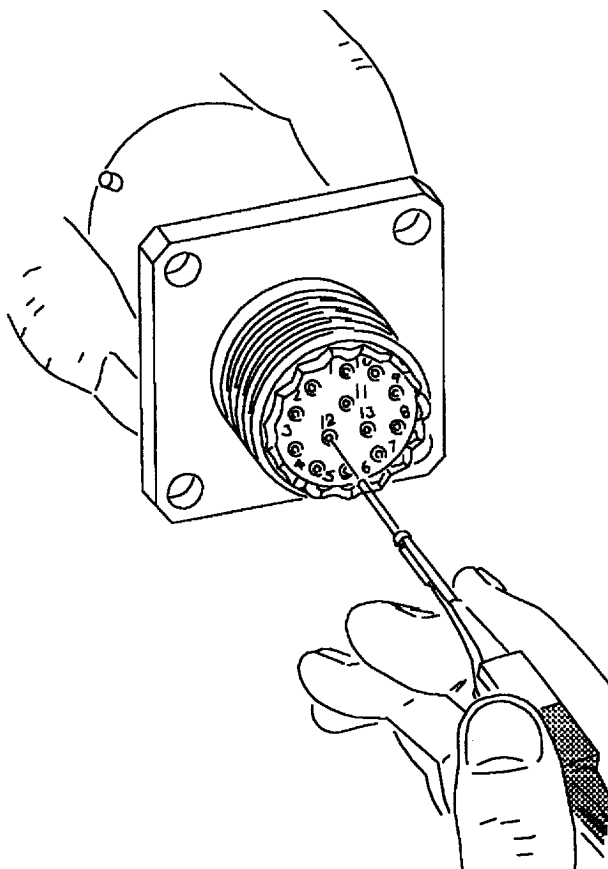
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



F/A-18-WRM-(315-9)02-SCAN

Figure 15. Unlocking Contact Mechanism



F/A-18-WRM-(315-4)02-SCAN

Figure 16. Removing Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

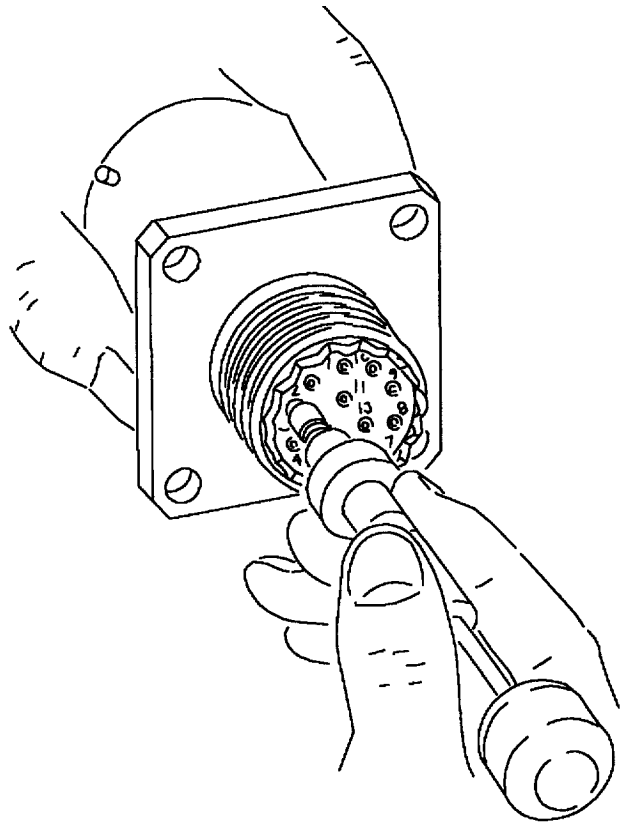
c. Align unwired removal tool at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

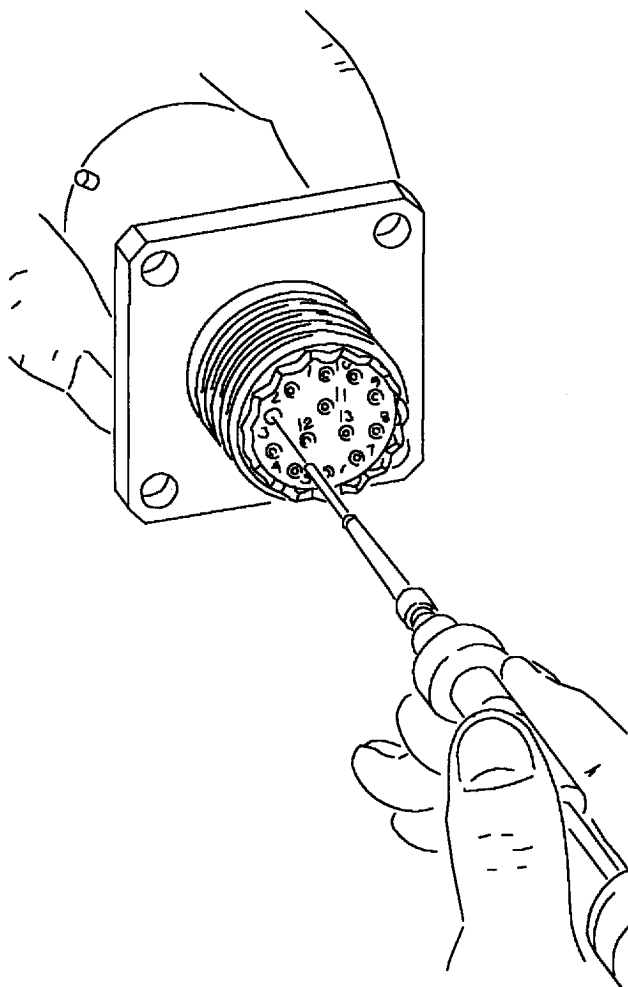
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 17.



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Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



F/A-18-WRM-(315-6)02-SCAN

Figure 18. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

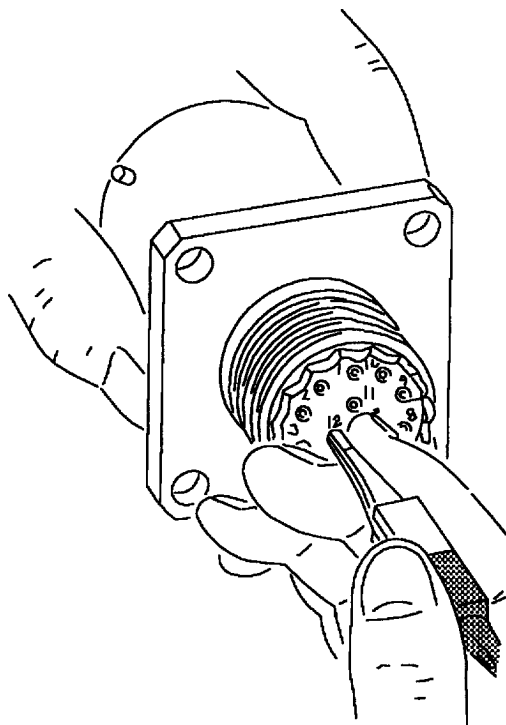
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



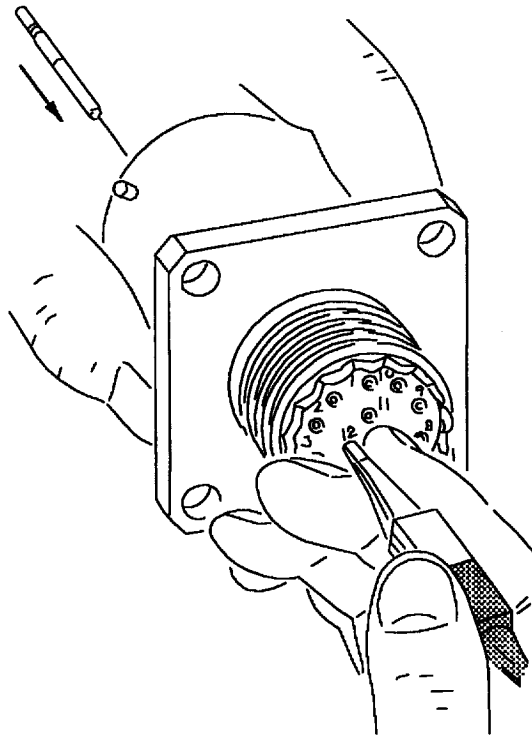
F/A-18-WRM-(315-7)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

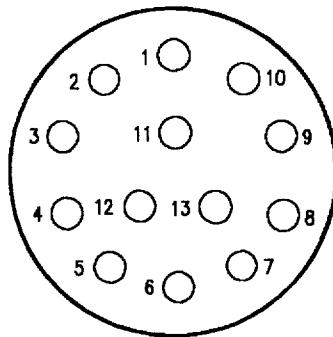
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



F/A-18-WRM-(315-6)02-SCAN

Figure 20. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(911-13)01-CATI

Reference Designation to Backshell Data Index for MS27656T11B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-E154	M85049/46W10	070 00
2 52J-H088	M85049/45W10	070 00
52J-H098	None	None
52J-J053	None	None
52J-J155	None	None
52J-L050	G7057-11-1NF	060 00
3 52J-L154	G7056-11-NF	060 00
1 52J-L309	None	None
4 61J-J022C	None	None
1 61J-K237	None	None
1 61J-L217	None	None
76J-B023A	None	None
84J-J104	None	None
1 F/A-18B 2 161702 AND UP. 3 F/A-18A 4 161925 AND UP.		

Reference Designation to Backshell Data Index for MS27656T11B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-B019	None	None
52J-H089	None	None

Figure 21. MS27656T11B35P and MS27656T11B35PA Connectors (Sheet 1)

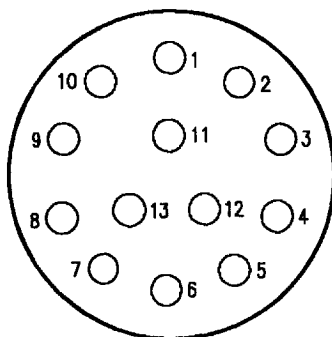
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/58-360	MS27488-22

Figure 21. MS27656T11B35P and MS27656T11B35PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-13)01-CATI

Reference Designation to Backshell Data Index for MS27656T11B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
17J-J008	M85049/46W10	070 00
17J-U017	M85049/46W10	070 00
17J-V018	M85049/46W10	070 00
20J-J003	M85049/46W10	070 00
3 22J-K171	M85049/46W10	070 00
4 52J-H088	M85049/46W10	070 00
52J-P157	G7057-11-1NF	060 00
52J-R158	G7057-11-1NF	060 00
61J-W210	G7057-11-1NF	060 00
6 61J-Y206	G7056-11NF	060 00
1 75J-N001	G7057-11-1NF	060 00
2 75J-N001	M85049/45W10	070 00
76J-J003	G7057-11-1NF	060 00
5 79J-L024	M85049/45W10	070 00
84J-H023	M85049/46W10	070 00
84J-H024	M85049/46W10	070 00
1 162394 AND UP. 2 161353 THRU 161987. 3 F/A-18B 163104 AND UP. 4 161353 THRU 161528 BEFORE F18 AFC 41 5 F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54 6 161353 THRU 161761, AND 161924		

Figure 22. MS27656T11B35S Connector (Sheet 1)

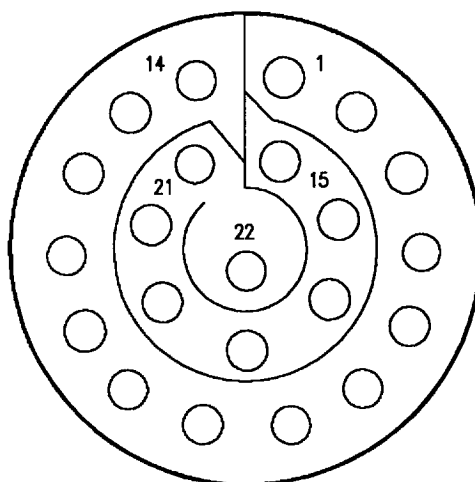
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/56-348	MS27488-22

Figure 22. MS27656T11B35S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(913-22)01-CATI

Reference Designation to Backshell Data Index for MS27656T13B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1J-J084	None	None
22J-A090	None	None
52J-H077B	None	None
52J-H079	None	None
52J-H081	None	None
52J-J076	None	None
1 79J-E023	None	None
2 79J-L023	None	None
3 80J-K023	None	None
4 83J-Y013	None	None
1 F/A-18B		
2 F/A-18A 161702 AND UP.		
3 F/A-18B 161704 AND UP.		
4 161353 THRU 162444.		

Table 1. Tool Data

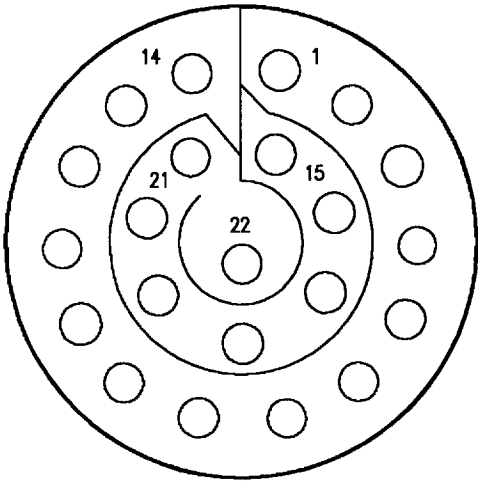
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 23. MS27656T13B35P Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/58-360	MS26488-22

Figure 23. MS27656T13B35P Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(813-22)01-CATI

Reference Designation to Backshell Data Index for MS27656T13B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-B021	M85049/46W12	070 00
52J-G040	M85049/45W12	070 00
52J-H049	M85049/46W12	070 00
1 52J-K301	M85049/46W12	070 00
2 52J-P166	M85049/45W12	070 00
61J-P110B	M85049/46W12	070 00
4 61J-R111A	M85049/46W12	070 00
84J-J025B	M85049/45W12	070 00
3 84J-J122B	M85049/45W12	070 00
1 84J-L097B	M85049/45W12	070 00
1 F/A-18B		
2 162445 AND UP		
3 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27.		
4 F/A-18A F/A-18B 161354 THRU 161947, AND 162836 AND UP.		

Figure 24. MS27656T13B35S, MS27656T13B35SA and MS27656T13B35SB Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27656T13B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 84J-C026C	M85049/45W12	070 00
84J-J025A	M85049/45W12	070 00
<input type="checkbox"/> 1 84J-J122A	M85049/45W12	070 00
<input type="checkbox"/> 2 84J-L097A	M85049/45W12	070 00
<input type="checkbox"/> 1 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27. <input type="checkbox"/> 2 F/A-18B		

Reference Designation to Backshell Data Index for MS27656T13B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 84J-C026B	M85049/45W12	070 00
<input type="checkbox"/> 1 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27.		

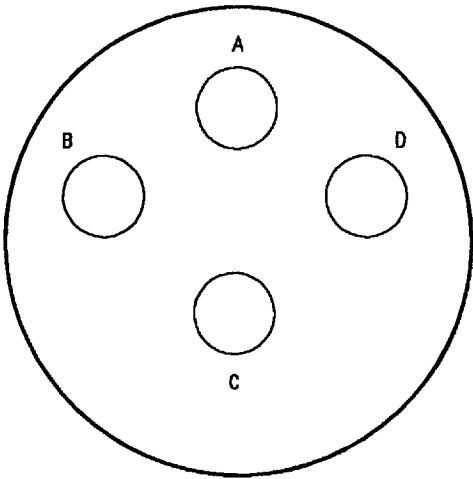
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/56-348	MS26488-22

Figure 24. MS27656T13B35S, MS27656T13B35SA and MS27656T13B35SB Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(913-4)01-CATI

Reference Designation to Backshell Data Index for MS27656T13B4P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-J086	M85049/46W12	070 00

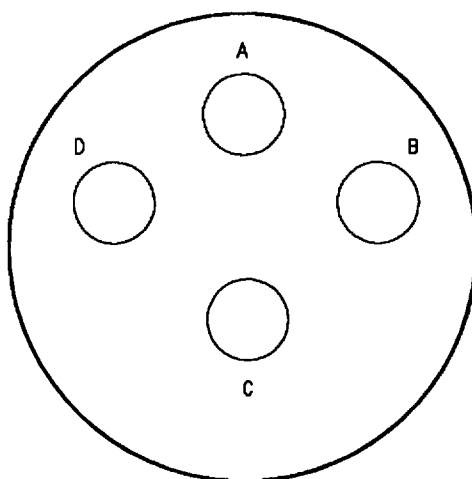
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU D	7/32	M39029/58-364	MS27488-16

Figure 25. MS27656T13B4P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(813-4)01-CATI

Reference Designation to Backshell Data Index for MS27656T13B4S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 84J-H092	M85049/45W12	070 00
2 84J-H092	M85049/46W12	070 00
84J-J093	M85049/45W12	070 00
3 84J-K092	M85049/46W12	070 00
1 F/A-18A 161353 THRU 162909.		
2 F/A-18A 163092 AND UP.		
3 F/A-18B		

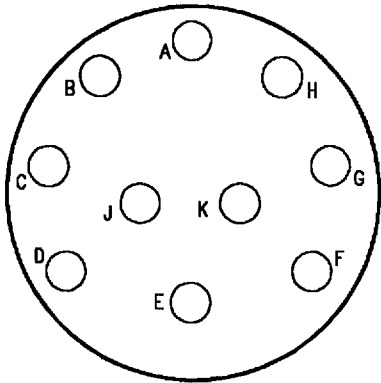
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU D	7/32	M39029/56-352	MS27488-16

Figure 26. MS27656T13B4S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(913-10)01-CATI

Reference Designation to Backshell Data Index for MS27656T13B98P Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-U152	G7057-13-NF	060 00
52J-V153	G7057-13-NF	060 00
 61J-Y200A	G7057-13-NF	060 00
 161353 THRU 161761, AND 161924.		

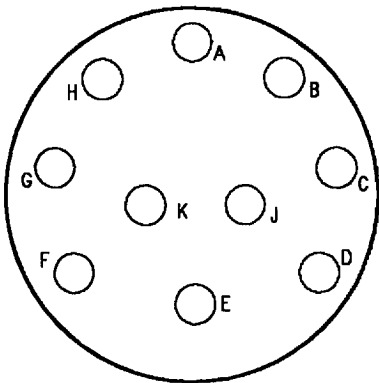
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J AND K	7/32	M39029/58-363	MS27488-20

Figure 27. MS27656T13B98P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-10)01-CATI

Reference Designation to Backshell Data Index for MS27656T13B98S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-M071	M85049/45W12	070 00
52J-N072	M85049/45W12	070 00

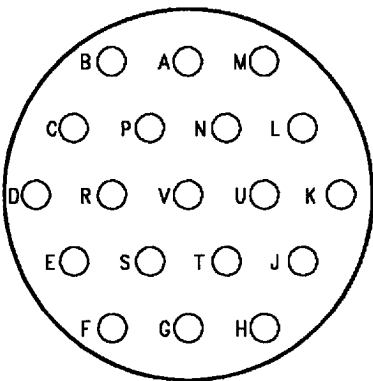
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/2-10
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J AND K	7/32	M39029/56-351	MS27488-20

Figure 28. MS27656T13B98S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(914-19)01-CATI

Reference Designation to Backshell Data Index for MS27656T15B19P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
22J-M099	M85049/46W14	070 00

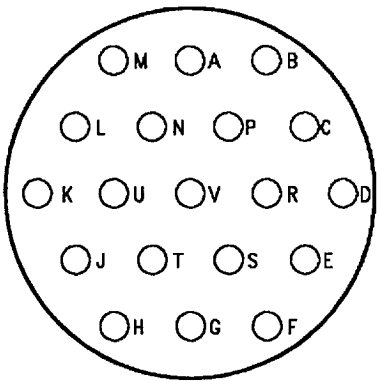
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU V	7/32	M39029/58-363	MS27488-20

Figure 29. MS27656T15B19P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(814-19)01-CATI

Reference Designation to Backshell Data Index for MS27656T15B19S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-H033	M85049/46W14	070 00
 F/A-18B		

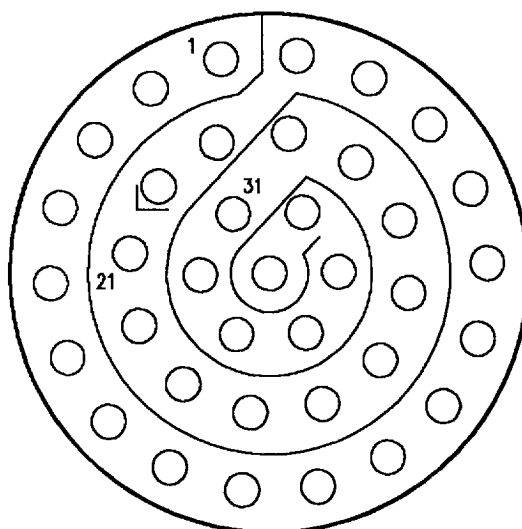
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU V	7/32	M39029/56-351	MS27488-20

Figure 30. MS27656T15B19S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(915-37)01-CATI

Reference Designation to Backshell Data Index for MS27656T15B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-C161	None	None
2 52J-D026D	None	None
52J-H075	None	None
52J-J080	None	None
52J-P119	42312-355	None
52J-R120	42312-355	None
3 61J-R034	MS27506B14-2	080 00
3 76J-K032	None	None
3 8J-L098	M85049/46W14	070 00
3 84J-K094	M85049/46W14	070 00
3 84J-L095	M85049/46W14	070 00
85J-F007	None	None
1 162394 AND UP.		
2 161360 AND UP.		
3 F/A-18B		

Reference Designation to Backshell Data Index for MS27656T15B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-H027	None	None
52J-H077A	None	None
8J-J002	None	None

Figure 31. MS27656T15B35P, MS27656T15B35PA, MS27656T15B35PB and MS27656T15B35PD Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27656T15B35PB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1J-H004	None	None

Reference Designation to Backshell Data Index for MS27656T15B35PD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-H091	None	None

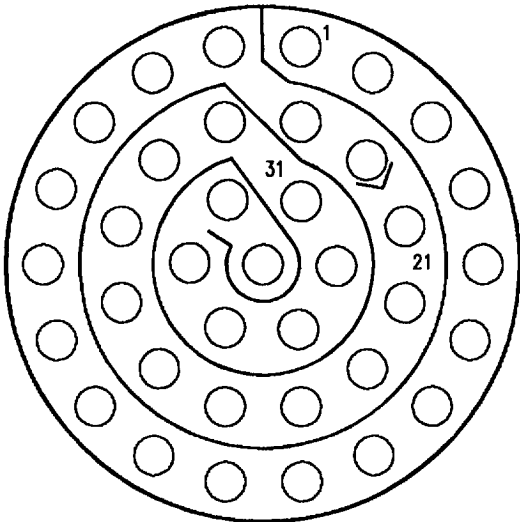
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PART NO.
1 THRU 37	5/32	M39029/58-360	MS27488-22

Figure 31. MS27656T15B35P, MS27656T15B35PA, MS27656T15B35PB and MS27656T15B35PD Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-37)01-CATI

Reference Designation to Backshell Data Index for MS27656T15B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>3</div> 52J-D026D	None	None
52J-D092C	None	None
<div>1</div> 52J-H048	M85049/45W14	070 00
<div>2</div> 52J-H048	M85049/46W14	070 00
52J-M069	M85049/45W14	070 00
52J-N070	M85049/45W14	070 00
<div>4</div> 61J-F034	G7057-15NF	060 00
61J-J033	G7056-15-NF	060 00
<div>5</div> 62J-J007	M85049/46W14	070 00
70J-A003	M85049/45W14	070 00
70J-B004	M85049/46W14	070 00
83J-G003	G7057-15NF	060 00
<div>1</div> 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 41.		
<div>2</div> 161353 THRU 161528 BEFORE F18 AFC 41.		
<div>3</div> 161353 THRU 161359.		
<div>4</div> F/A-18A		
<div>5</div> 161702 AND UP.		

Reference Designation to Backshell Data Index for MS27656T15B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 52J-K302	M85049/46W14	070 00
<div>1</div> F/A-18B		

Figure 32. MS27656T15B35S and MS27656T15B35SA Connectors (Sheet 1)

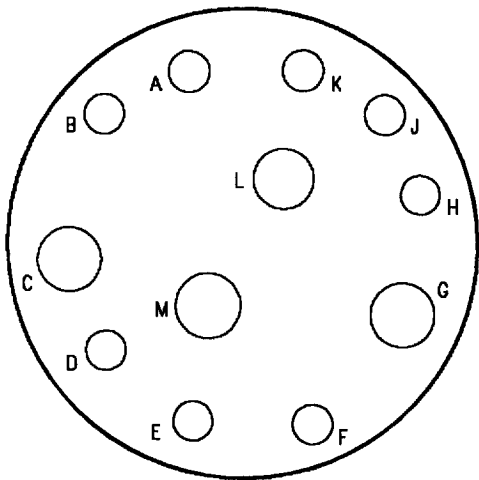
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/56-348	MS27488-22

Figure 32. MS27656T15B35S and MS27656T15B35SA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(915-12)01-CATI

Reference Designation to Backshell Data Index for MS27656T15B97PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-J008	M85049/46W14	070 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A, B, D THRU F, H, J AND K	7/32	M39029/58-363	MS27488-20
C, G, L AND M	7/32	M39029/58-364	MS27488-16

Figure 33. MS27656T15B97PA Connector



F/A-18-WRM-(815-12)01-CAT I

REFERENCE DESIGNATION

1 61J-R111B

BACKSHELL

REFERENCE WORK PACKAGE

M85049/46W14

070 00

1 F/A-18A,
F/A-18B 161354 THRU 161947, AND 162836 AND UP.

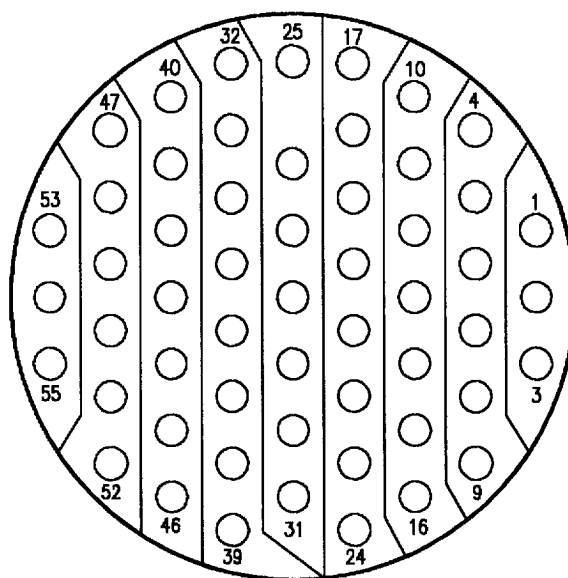
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool Probe (Red)	DRK105-20-2
Removal Tool (Unwired)	DRK105-1SA
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A, B, D THRU F, H, J AND K	7/32	M39029/56-351	MS27488-20
C, G, L AND M	7/32	M39029/56-352	MS27488-16

Figure 34. MS27656T15P97S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(917-55)01-CATI

Reference Designation to Backshell Data Index for MS27656T17B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C159F	None	None
52J-H087	None	None
52J-J078	None	None
1 52J-L160	M85049/45W16	070 00
2 52J-L160	M85049/46W16	070 00
52J-U150	G7056-17-NF	060 00
52J-V151	G7056-17-NF	060 00
3 52J-Y312A	None	None
1 F/A-18B 161704 AND UP		
2 F/A-18A 161702 AND UP		
3 161520 AND UP.		

Reference Designation to Backshell Data Index for MS27656T17B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 84J-H031	M85049/46W16	070 00
84J-H034	M85049/46W16	070 00
1 84J-J032	M85049/46W16	070 00
84J-J033	M85049/46W16	070 00
1 F/A-18A		

Figure 35. MS27656T17B35P and MS27656T17B35PA Connectors (Sheet 1)

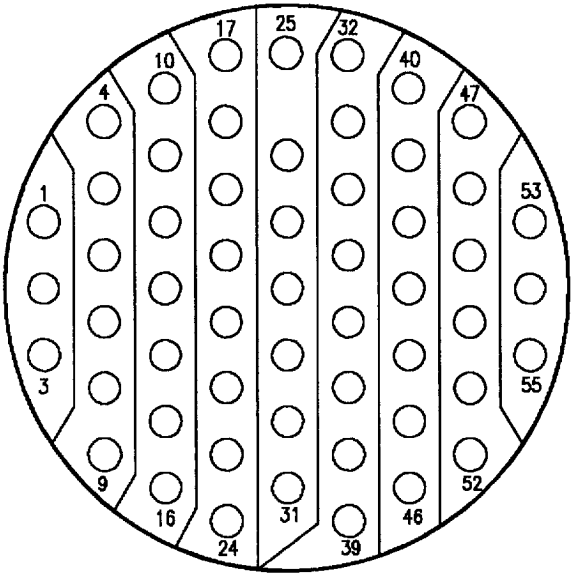
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/58-360	MS27488-22

Figure 35. MS27656T17B35P and MS27656T17B35PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-55)01-CATI

Reference Designation to Backshell Data Index for MS27656T17B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 52J-D026A	None	None
52J-H073	M85049/46W16	070 00
52J-J074	M85049/46W16	070 00
84J-M051	M85049/45W16	070 00
84J-N052	M85049/45W16	070 00
<div>1</div> 161360 AND UP.		

Reference Designation to Backshell Data Index for MS27656T17B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 5J-G024	M85049/46W16	070 00
<div>2</div> 52J-D024D	None	None
<div>1</div> 161360 AND UP; ALSO 161353 THRU 161359 AFTER F18 AFC 53.		
<div>2</div> 161353 THRU 161359.		

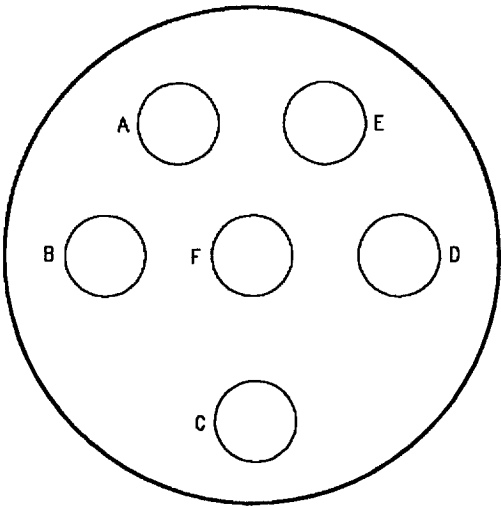
Figure 36. MS27656T17B35S and MS27656T17B35SA Connectors (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 55	5/32	M39029/56-348	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(917-6)01-CATI

Reference Designation to Backshell Data Index for MS27656T17B6P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 1J-A153 52J-C057B 52J-C159C	M85049/46W16 None None	070 00 None None
2 52J-D026B 52J-D092A	None None	None None
1 162394 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 49, AND 161702 THRU 161987 AFTER F18 AFC 48.		
2 161353 THRU 161359.		

Table 1. Tool Data

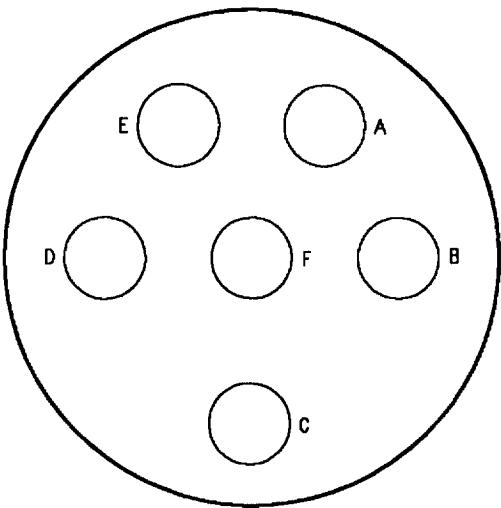
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-12-2

Figure 37. MS27656T17B6P Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/58-365	MS27488-12

Figure 37. MS27656T17B6P Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(817-6)01-CATI

Reference Designation to Backshell Data Index for MS27656T17B6S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 2 20J-L013	M85049/45W16	070 00
<input type="checkbox"/> 22J-C108	M85049/46W16	070 00
<input type="checkbox"/> 1 52J-C159D	None	None
<input type="checkbox"/> 3 52J-D024B	None	None
<input type="checkbox"/> 1 161353 THRU 161944.		
<input type="checkbox"/> 2 F/A-18B		
<input type="checkbox"/> 3 161360 AND UP.		

Reference Designation to Backshell Data Index for MS27656T17B6SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 52J-C159D	None	None
<input type="checkbox"/> 1 161945 AND UP.		

Reference Designation to Backshell Data Index for MS27656T17B6SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 1 52J-D024E	None	None
<input type="checkbox"/> 1 161353 THRU 151359.		

Figure 38. MS27656T17B6S, MS27656T17B6SA and MS27656T17B6SB Connectors (Sheet 1)

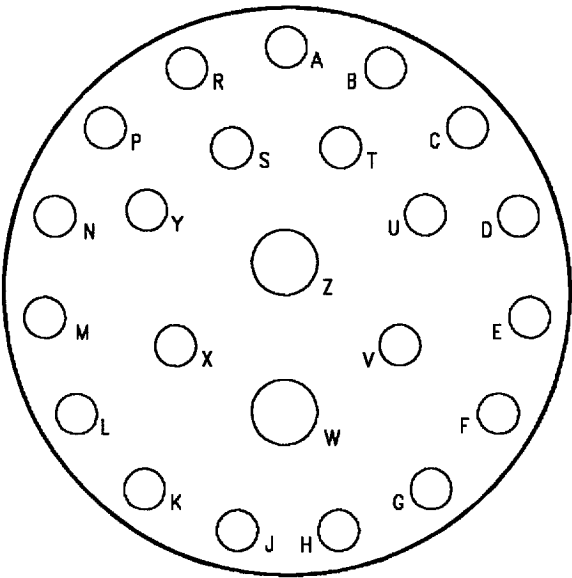
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-12-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	7/32	M39029/56-353	MS27488-12

Figure 38. MS27656T17B6S, MS27656T17B6SA and MS27656T17B6SB
Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-23)01-CATI

Reference Designation to Backshell Data Index for MS27656T17B99S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61J-A120	M85049/45W16	070 00

Table 1. Tool Data

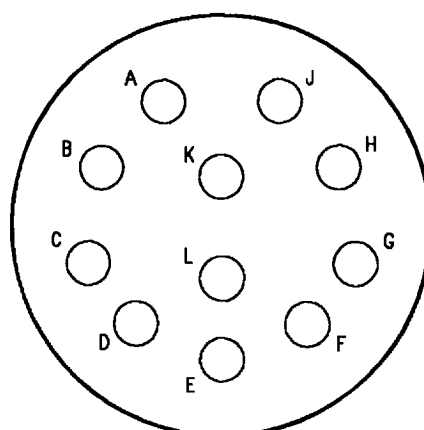
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2

Figure 39. MS27656T17B99S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU V, X AND Y	7/32	M39029/56-351	MS27488-20
W AND Z	7/32	M39029/56-352	MS27488-16

Figure 39. MS27656T17B99S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-11)01-CATI

Reference Designation to Backshell Data Index for MS27656T19B11P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-R163	M85049/46W18	070 00
1 162445 AND UP.		

Reference Designation to Backshell Data Index for MS27656T19B11PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-U015	M85049/45W18	070 00
52J-V014	M85049/45W18	070 00

Reference Designation to Backshell Data Index for MS27656T19B11PC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-U017	M85049/45W18	070 00
52J-V016	M85049/45W18	070 00

Figure 40. MS27656T19B11P, MS27656T19B11PA and MS27656T19B11PC Connectors (Sheet 1)

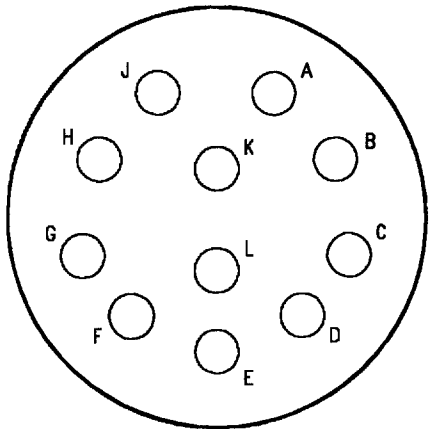
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU L	7/32	M39029/58-364	MS27488-16

Figure 40. MS27656T19B11P, MS27656T19B11PA and MS27656T19B11PC
Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-11)01-CATI

Reference Designation to Backshell Data Index for MS27656T19B11S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-D092B	None	None

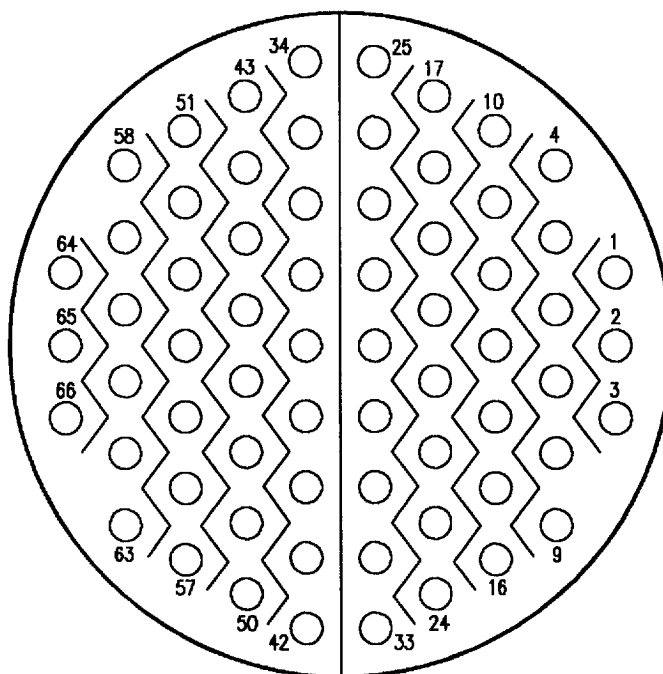
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU L	7/32	M39029/56-352	MS27488-16

Figure 41. MS27656T19B11S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-66)01-CATI

Reference Designation to Backshell Data Index for MS27656T19B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-N118A	None	None
52J-U019	M85049/45W18	070 00
52J-V020	M85049/45W18	070 00

Reference Designation to Backshell Data Index for MS27656T19B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-N118B	None	None

Reference Designation to Backshell Data Index for MS27656T19B35PB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-U013	M85049/45W18	070 00
52J-V012	M85049/45W18	070 00

Figure 42. MS27656T19B35P, MS27656T19B35PA and MS27656T19B35PB Connectors (Sheet 1)

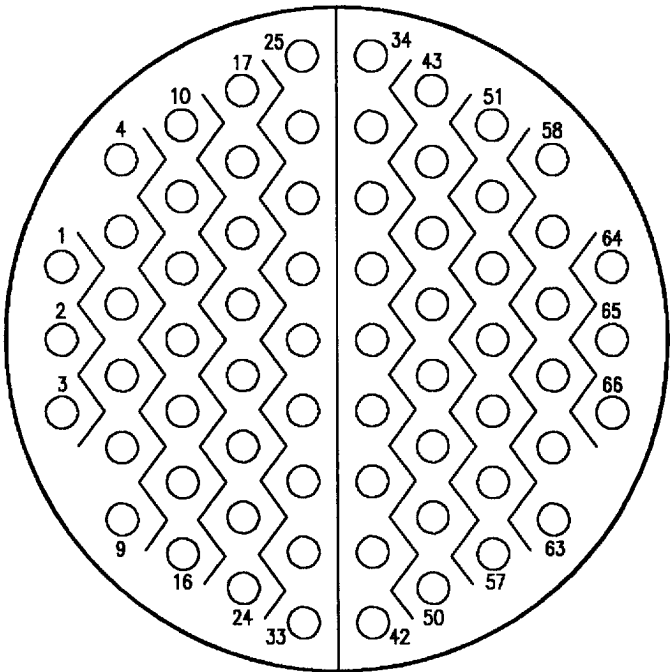
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+ 1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 66	5/32	M39029/58-360	MS27488-22

Figure 42. MS27656T19B35P, MS27656T19B35PA and MS27656T19B35PB
Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-66)01-CATI

Reference Designation to Backshell Data Index for MS27656T19B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C022	M85049/46W18	070 00

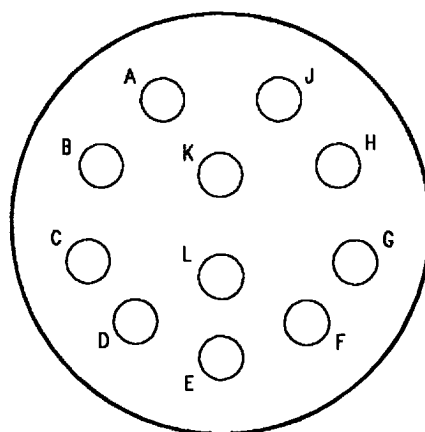
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 66	5/32	M39029/56-348	MS27488-22

Figure 43. MS27656T19B35S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(919-11)01-CAT I

Reference Designation to Backshell Data Index for MS27656T21B11P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 1J-A138	None	None
52J-C057A	None	None
52J-C159A	None	None
52J-C159B	None	None
52J-D024A	None	None
2 52J-D026A	None	None
3 52J-D026B	None	None
1 161702 AND UP.		
2 161353 THRU 161359.		
3 161360 AND UP.		

Reference Designation to Backshell Data Index for MS27656T21B11PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-D024B	None	None
1 161353 THRU 161359.		

Figure 44. MS27656T21B11P and MS27656T21B11PA Connectors (Sheet 1)

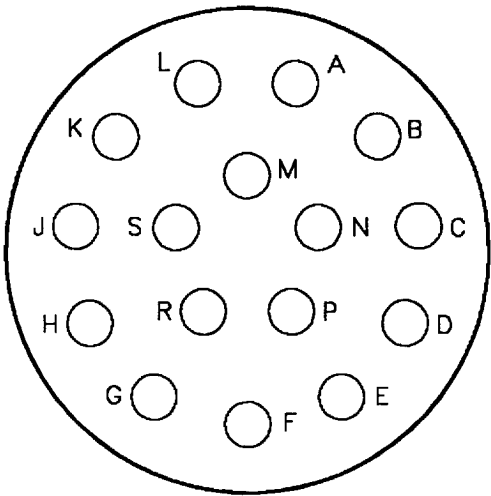
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Yellow)	M81969/14-04
Removal Tool (White)	M81969/14-04
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-12-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU L	7/32	M39029/58-365	MS27488-12

Figure 44. MS27656T21B11P and MS27656T21B11PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(821-16)01-CATI

Reference Designation to Backshell Data Index for MS27656T21B16S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61J-P110A	M85049/46W20	070 00

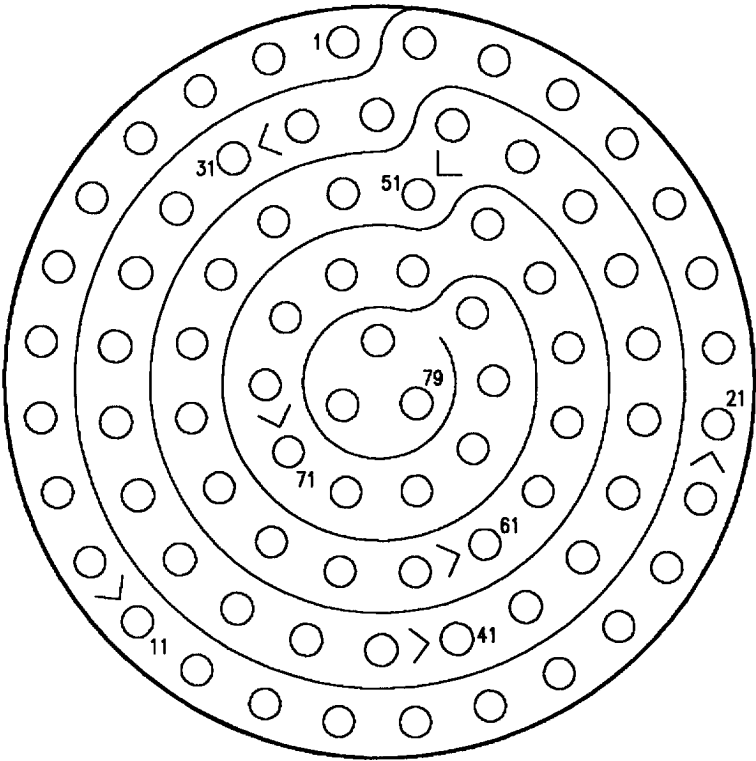
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P R AND S	7/32	M39029/56-352	MS27488-16

Figure 45. MS27656T21B16S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(921-79)01-CATI

Reference Designation to Backshell Data Index for MS27656T21B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
2 52J-H032	M85049/45W20	070 00
52J-L030	M85049/46W20	070 00
2 52J-L308	M85049/46W20	070 00
1 84J-H031	M85049/46W20	070 00
2 84J-J032	M85049/45W20	070 00
1 F/A-18B 161354 THRU 161924		
2 F/A-18B		

Reference Designation to Backshell Data Index for MS27656T21B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 84J-H031	M85049/46W20	070 00
1 F/A-18B 161932 AND UP		

Figure 46. MS27656T21B35P and MS27656T21B35PA Connectors (Sheet 1)

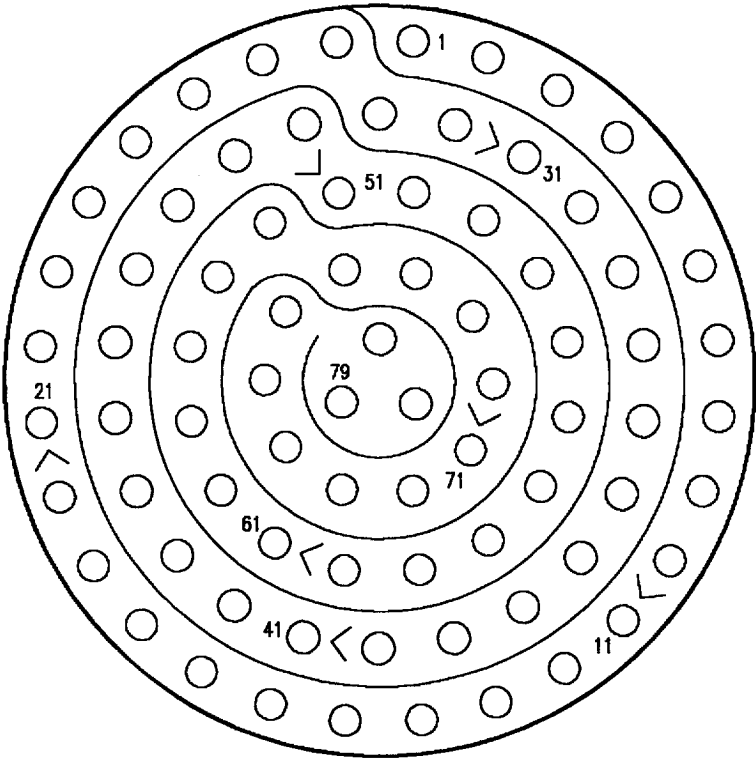
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	5/32	M39029/58-360	MS27488-22

Figure 46. MS27656T21B35P and MS27656T21B35PA Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(821-79)01-CATI

Reference Designation to Backshell Data Index for MS27656T21B35S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-B023	M85049/45W20	070 00
52J-C051	M85049/46W20	070 00
 52J-D024D	None	None
 161360 AND UP.		

Table 1. Tool Data

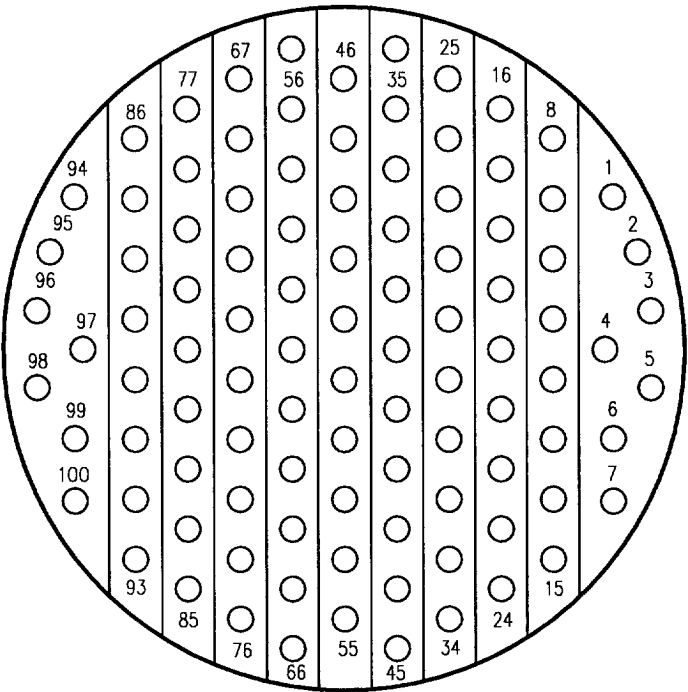
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 47. MS27656T21B35S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	5/32	M39029/56-348	MS27488-22

Figure 47. MS27656T21B35S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-35)01-CATI

Reference Designation to Backshell Data Index for MS27656T23B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-C057G	None	None
2 52J-R165	M85049/46W22	070 00
1 F/A-18B	F/A-18A 161702 AND UP; ALSO 161353 THRU 161528 AFTER F18 AFC 54.	
2 162445 AND UP.		

Table 1. Tool Data

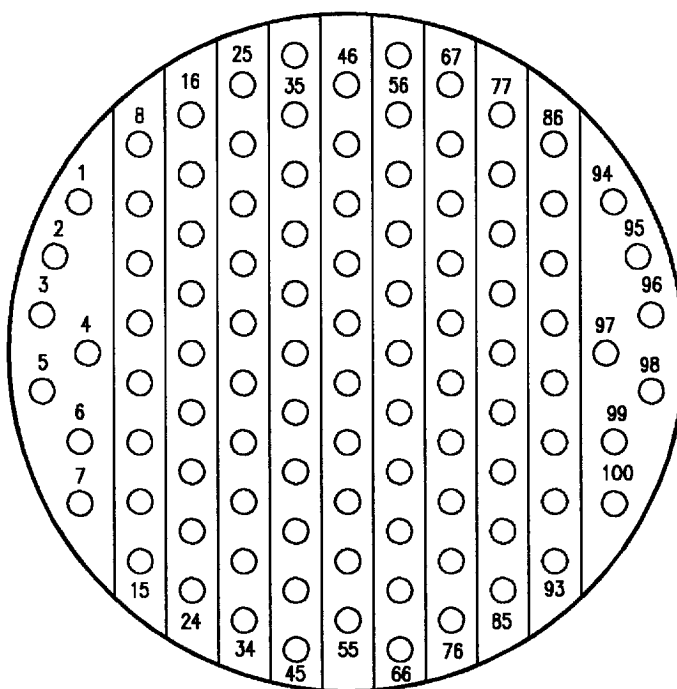
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M2252012-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 48. MS27656T23B35P Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	7/32	M39029/58-360	MS27488-22

Figure 48. MS27656T23B35P Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-35)01-CATI

Reference Designation to Backshell Data Index for MS27656T23B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C159G	None	None
6W-A001B	M85049/45W22	070 00
61J-W093	G7057-23-NF	060 00

Reference Designation to Backshell Data Index for MS27656T23B35SD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61J-W112	G7057-23-NF	060 00

Figure 49. MS27656T23B35S and MS27656T23B35SD Connectors (Sheet 1)

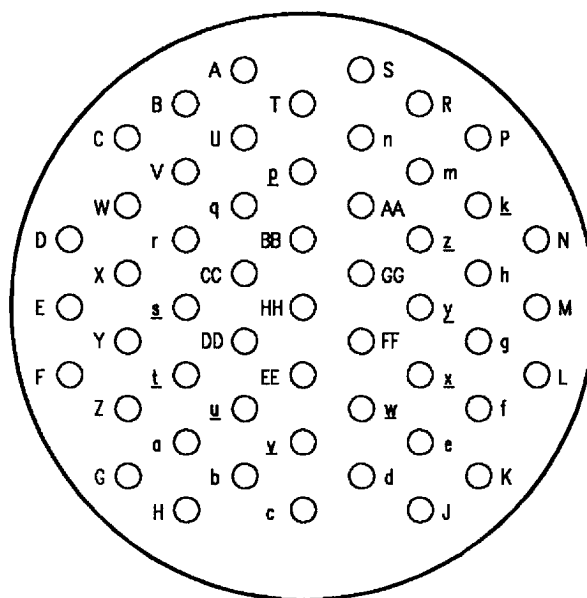
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	5/32	M39029/56-348	MS27488-22

Figure 49. MS27656T23B35S and MS27656T23B35SD Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-53)01-CATI

Reference Designation to Backshell Data Index for MS27656T23B53P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61J-W095B	M85049/45W24	070 00
1 61J-Y200B	G7057-23-NF	060 00
1 161353 THRU 161761, AND 161924.		

Reference Designation to Backshell Data Index for LJT01RT23-53P014 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 64J-E001F	M85049/45W22	070 00
1 162415 AND UP; ALSO 161702 THRU 162414 BEFORE F18 IAFC 050.		

Table 1. Tool Data

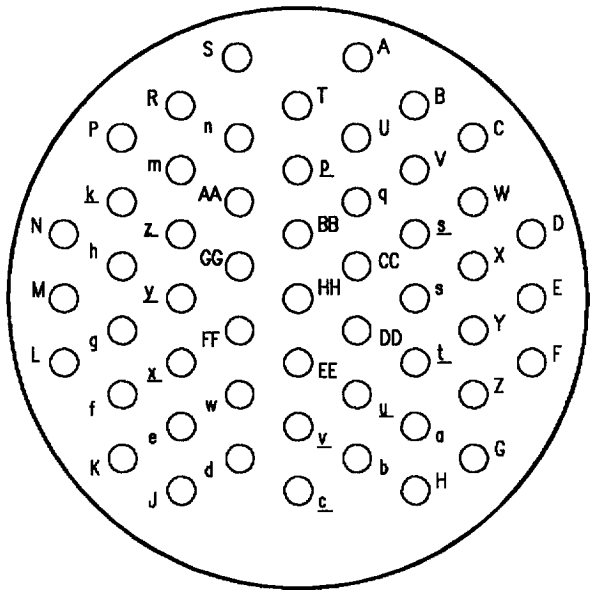
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Figure 50. LJT01RT23-53P014 and MS27656T25B53P Connectors (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU h, k, m, n, p THRU HH	7/32	M39029/58-363	MS27488-20

Figure 50. LJT01RT23-53P014 and MS27656T25B53P Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-53)01-CATI

Reference Designation to Backshell Data Index for MS27656T23B53S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-E011	M85049/45W22	070 00

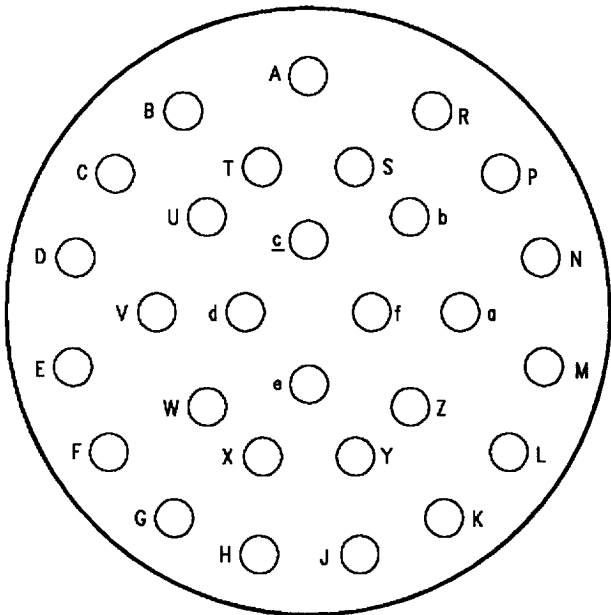
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R, THRU h, k, m, n, p THRU HH	7/32	M39029/56-351	MS27488-20

Figure 51. MS27656T23B53S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-29)01-CATI

Reference Designation to Backshell Data Index for MS27656T25B29PC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F058D	None	None

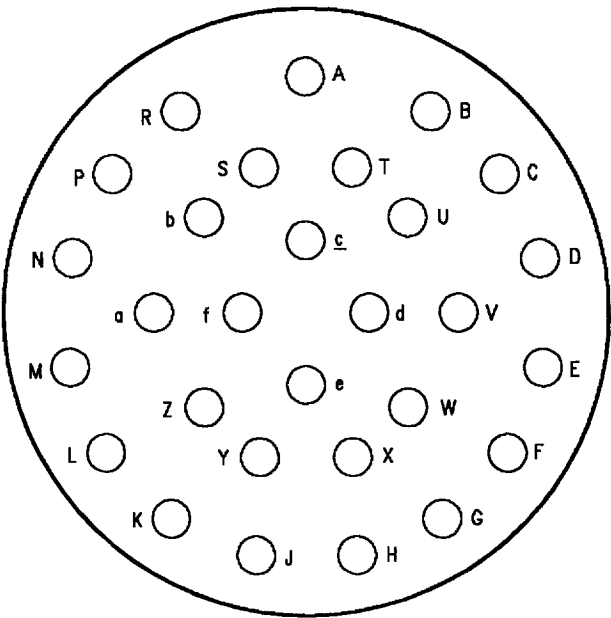
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU f	7/32	M39029/58-364	MS27488-16

Figure 52. MS27656T25B29P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-29)01-CATI

Reference Designation to Backshell Data Index for MS27656T25B29S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
60J-A001A	M85049/45W24	070 00
61J-W024	G7057-25-NF	060 00

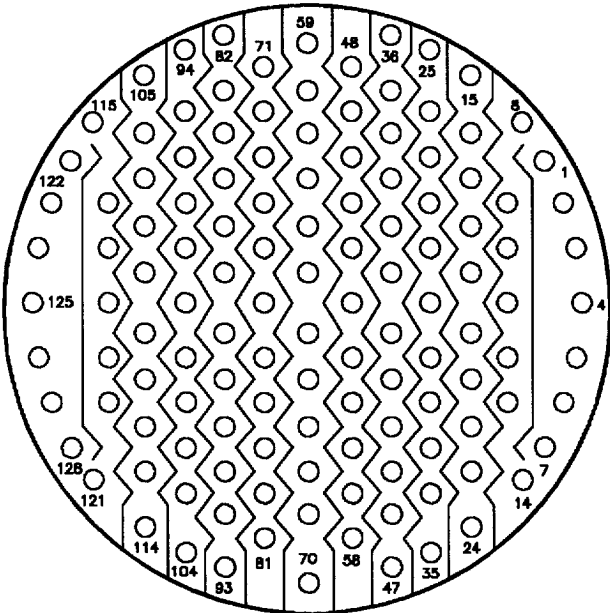
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU f	7/32	M39029/56-352	MS27488-16

Figure 53. MS27656T25B29S Connector



AS VIEWED FROM REAR OF CONNECTOR






F/A-18-WRM-(923-128)01-CATI

Reference Designation to Backshell Data Index for MS27656T25B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-E059	None	None
<input type="checkbox"/> 2 ➡ 52J-H032	M85049/45W24	070 00
52J-H034	M85049/45W24	070 00
52J-H039	M85049/46W24	070 00
<input type="checkbox"/> 1 ➡ 52J-H046	M85049/46W24	070 00
52J-J028	M85049/45W24	070 00
52J-J038	M85049/46W24	070 00
52J-J042	M85049/45W24	070 00
<input type="checkbox"/> 3 ➡ 52J-K307	M85049/46W24	070 00
<input type="checkbox"/> 3 ➡ 84J-P041	M85049/45W24	070 00
<input type="checkbox"/> 3 ➡ 84J-R043	M85049/45W24	070 00
<input type="checkbox"/> 1 ➡ 161353 THRU 161528.		
<input type="checkbox"/> 2 ➡ F/A-18A		
<input type="checkbox"/> 3 ➡ F/A-18B		

Figure 54. MS27656T25B35P, MS27656T25B35PA, MS27656T25B35PB and MS27656T25B35PD Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27656T25B35PA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C057E	None	None
52J-F058B	None	None
 52J-H046	M85049/46W24	070 00
52J-J029	M85049/45W24	070 00
 84J-E045	M85049/45W24	070 00
84J-E048	M85049/45W24	070 00
 84J-F047	M85049/45W24	070 00
 161702 AND UP.		
 F/A-18A		

Reference Designation to Backshell Data Index for MS27656T25B35PB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F058C	None	None

Reference Designation to Backshell Data Index for MS27656T25B35PD Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F058E	None	None

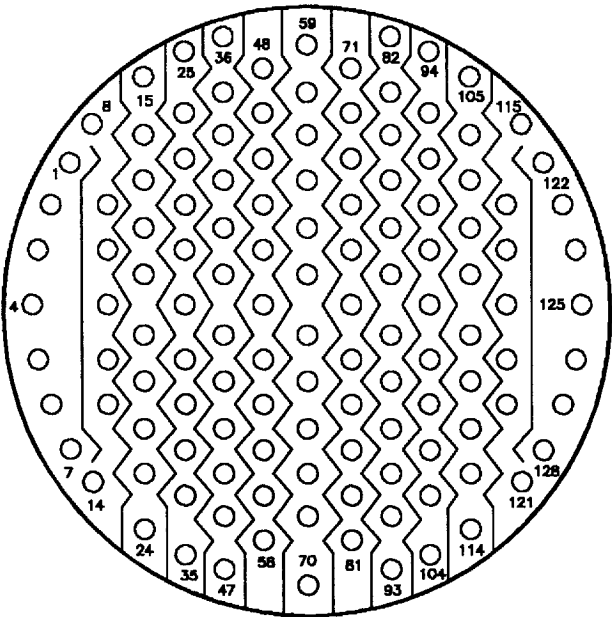
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 128	5/32	M39029/58-360	MS27488-22

Figure 54. MS27656T25B35P, MS27656T25B35PA, MS27656T25B35PB and MS27656T25B35PD Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-128)01-CAT1

Reference Designation to Backshell Data Index for MS27656T25B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-R164	M85049/46W24	070 00
2 84J-E041	M85049/45W24	070 00
84J-E044	M85049/45W24	070 00
2 84J-F043	M85049/45W24	070 00
1 162445 AND UP.		
2 F/A-18A		

Reference Designation to Backshell Data Index for MS27656T25B35SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 84J-P045	M85049/45W24	070 00
1 84J-R047	M85049/45W24	070 00
1 F/A-18B		

Figure 55. MS27656T25B35S, MS27656T25B35SA, MS27656T25B35SB and MS27656T25B35SC Connectors (Sheet 1)

Reference Designation to Backshell Data Index for MS27656T25B35SB Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C057D 52J-E007	None M85049/45W24	None 070 00

Reference Designation to Backshell Data Index for MS27656T25B35SC Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C057F	None	None

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle Positioner Insertion Tool (Green) Removal Tool (White) Removal Tool (Unwired) Removal Tool Probe (Yellow)	M22520/2-01 M22520/2-07 M81969/14-01 M81969/14-01 DRK105-1SA DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 128	5/32	M39029-56-348	MS27488-22

Figure 55. MS27656T25B35S, MS27656T25B35SA, MS27656T25B35SB and MS27656T25B35SC Connectors (Sheet 2)



F/A-18-WRM-(925-43)01-CAT I

Reference Designation to Backshell Data Index for MS27656T25B43P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-F058A	None	None

Table 1. Tool Data

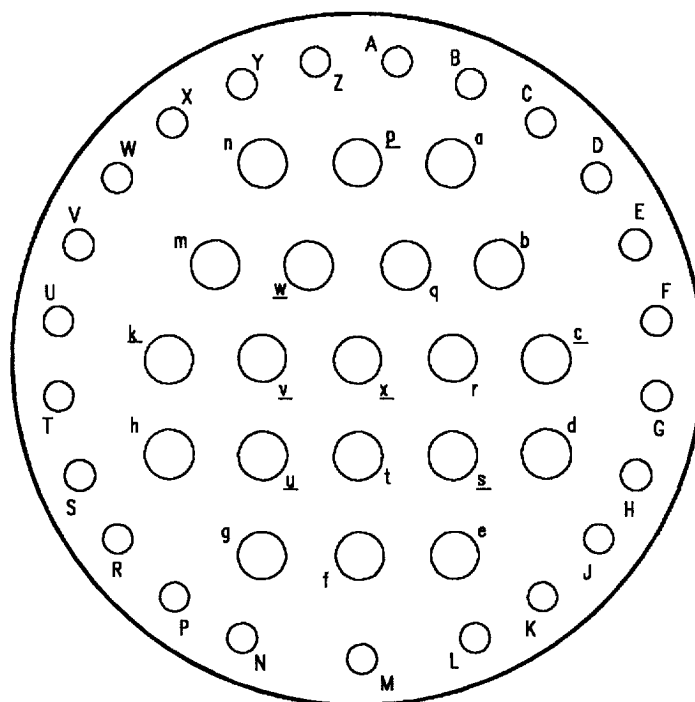
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2

Figure 56. MS27656T25B43P Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU h, k, m, n, p THRU x	7/32 7/32	M39029/58-363 M39029/58-364	MS27488-20 MS27488-16

Figure 56. MS27656T25B43P Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-825(-43)01-CATI

Reference Designation to Backshell Data Index for MS27656T25B43S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-C057C	None	None
52J-C159E	None	None
52J-D024C	None	None
52J-D026C	None	None

Table 1. Tool Data

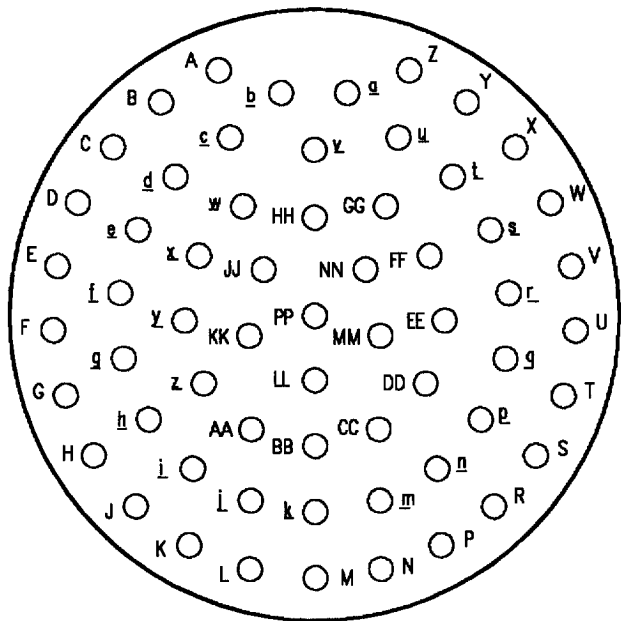
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool Probe (Blue)	DRK105-16-2

Figure 57. MS27656T25B43S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU Z, a THRU h, k, m, n, P THRU X	7/32 7/32	M39029/56-351 M39029/56-352	MS27488-20 MS27488-16

Figure 57. MS27656T25B43S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(925-61)01-CATI

Reference Designation to Backshell Data Index for MS27656T25B61P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61J-W095A	M85049/45W24	070 00

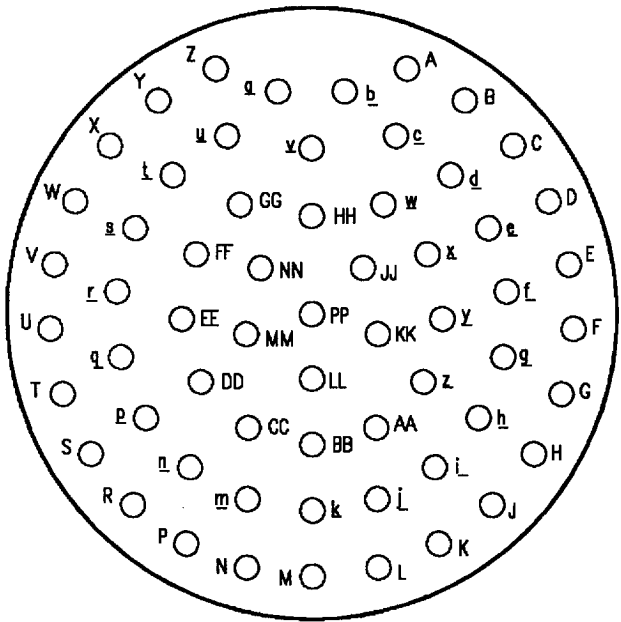
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU k, m, n, p THRU HH, JJ THRU NN AND PP	7/32	M39029/58-363	MS27488-20

Figure 58. MS27656T25B61P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(825-61)01-CATI

Reference Designation to Backshell Data Index for MS27656T25B61SA Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-H033	M85049/46W24	070 00
 F/A-18A		

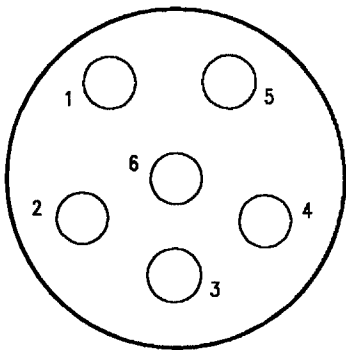
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU H, J THRU N, P, R THRU k, m, n, p THRU HH, JJ THRU NN AND PP	7/32	M39029/56-351	MS27488-20

Figure 59. MS27656T25B61SA Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18 WRM-(909-5)01-CATI

Reference Designation to Backshell Data Index for MS27656T9B35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-J156	G7056-9-NF	060 00
<div>2</div> 52J-K304	None	None
<div>1</div> 7J-S048	None	None
<div>1</div> 161353 THRU 161361.		
<div>2</div> F/A-18B		

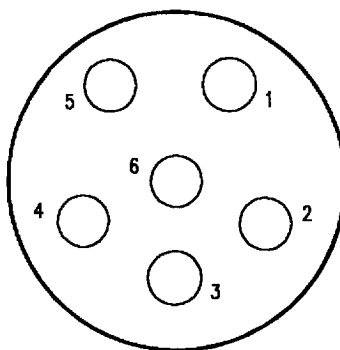
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-02
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/58-360	MS27488-22

Figure 60. MS27656T9B35P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(809-5)01-CATI

Reference Designation to Backshell Data Index for MS27656T9B35S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
12J-G029	G7057-9-1NF	060 00
1 12J-G060	G7057-9-1NF	060 00
1 12J-G061	G7057-9-1NF	060 00
2 20J-L014	M85049/45W8	070 00
3 22J-D096	M85049/45W8	070 00
4 22J-E098	M85049/46W8	070 00
5 22J-F096	M85049/45W8	070 00
52J-H083	M85049/46W8	070 00
61J-W239	G7057-9-1NF	060 00
4 62J-A030E	M85049/45W8	070 00
4 62J-B029E	M85049/45W8	070 00
1 161737 AND UP. 2 F/A-18B 3 161353 THRU 161519. 4 161702 AND UP 5 161520 AND UP; ALSO F/A-18B 161354 THRU 161360 AFTER F18 AFC 27.		

Table 1. Tool Data

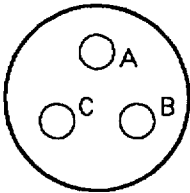
ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 61. MS27656T9B35S Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/56-348	MS27488-22

Figure 61. MS27656T9B35S Connector (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(909-3)01-CATI

Reference Designation to Backshell Data Index for MS27656T9B98S Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<div>1</div> 5J-P111	G7057-9-1NF	061 00
<div>1</div> 5J-R112	G7056-9-NF	061 00
<div>2</div> 7J-U042	G7056-9-NF	060 00
<div>2</div> 7J-V043	G7056-9-NF	060 00
<div>1</div> See Table 3. For Contact Data		
<div>2</div> See Table 2. For Contact Data		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1 -04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU C	7/32	M39029/56-351	MS27488-20

Table 3. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A	7/32	10-407865-310	MS27488-20
B	7/32	10-407865-320	MS27488-20
C	7/32	M39029/56-351	MS27488-20

Figure 62. MS27656T9B98S Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE
WIRING REPAIR WITH PARTS DATA**RELAY SOCKET MODULES REPAIR****Reference Material**

Refernce Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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



















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







Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 41	19 Sep 85	Throttle Thrust Sensitivity, Reduction of (EC MDA-F/A-18-0054C1)	1 Sep 86	-
F/A-18 AFC 49	31 Jan 86	Addition of Sealed Lead Acid Battery (EXP MDA-F/A-18-00074)	1 Sep 86	-
F/A-18 AFC 57	30 Mar 90	Improved Aircraft Monitor and Control (AMAC), Installation of	1 Oct 93	-
F/A-18 AFC 74	-	Installation of Aircraft Wiring Provi- sions for Additional Weapons Capa- bility (ECP MDA-F/A-18-2120 PT2)	1 Dec 87	-







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























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
















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34K-F009	31
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


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5K-E011	31
 5K-E055	26
 5K-E055	31
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 5K-E164	31
 5K-E165	31
5K-N154	31
5K-N155	31
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61K-C123	28
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
























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 64K-C024	31
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69K-F009	31
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7K-C040	27
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72K-F006	31
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74K-F010	31
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8K-F067	26
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84K-F070	31
84K-F071	31
84K-F072	31
 84K-F079	31
9K-N001	31

LEGEND

 1	161353 THRU 161528.
 2	161702 AND UP.
 3	F/A-18A.
 4	F/A-18B.
 5	161702 AND UP, ALSO 161353 THRU 161528 AFTER F/A-18 AFC 49
 6	162397 AND UP.
 7	163119 AND UP.
 8	F/A-18B 163104 AND UP.
 9	162394 AND UP.
 10	161353 THRU 162477.
 11	162826 AND UP.
 12	163092 AND UP.
 13	161353 THRU 161519.
 14	161520 AND UP.
 15	161924 AND UP.
 16	161924 THRU 162830.
 17	161353 THRU 162909
 18	161353 THRU 161761.
 19	161925 AND UP; ALSO 161353 THRU 161924 AFTER F/A-18 AFC 57.
 20	F/A-18A 161703 AND 161705.
 21	161353 THRU 161528 BEFORE F/A-18 AFC 41.
 22	161353 THRU 161987.
 23	161360 AND UP.
 24	F/A-18A F/A-18B 161354 THRU 161924, 162402 AND UP.
 25	162394 AND UP, ALSO 161353 THRU 161987 AFTER F/A-18 AFC 74.

1. DESCRIPTION.

2. This work package consists of disassembly, removal, installation and repair procedures for plug-in relay socket modules.

3. Each relay socket module part number is supported by an illustration which represents the contact arrangement and tables containing tooling and parts data.



Unwired relay socket module cavities shall have a sealing plug installed to prevent water intrusion.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

4. DISASSEMBLY PROCEDURE.**WARNING**

Do not use relays or panels as an armrest, hand hold, or step. Applying side pressure to a relay can cause the circuit to open or cause intermittent operation.

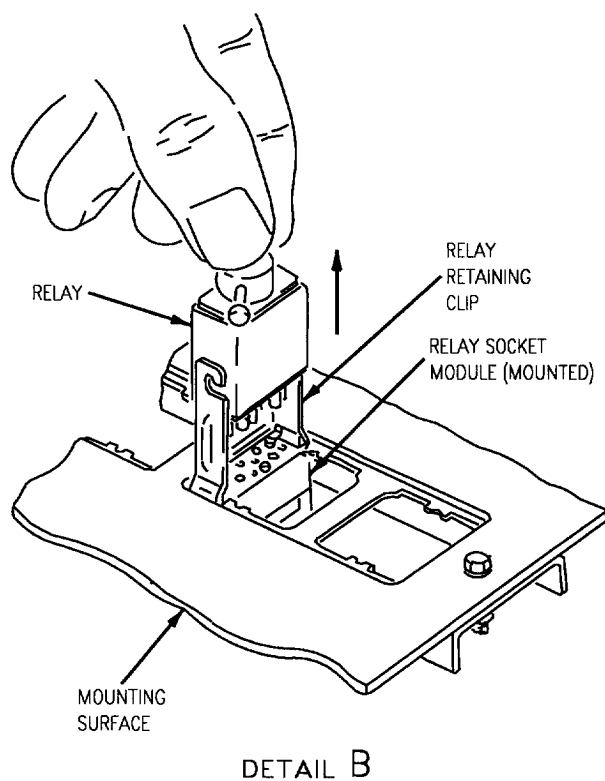
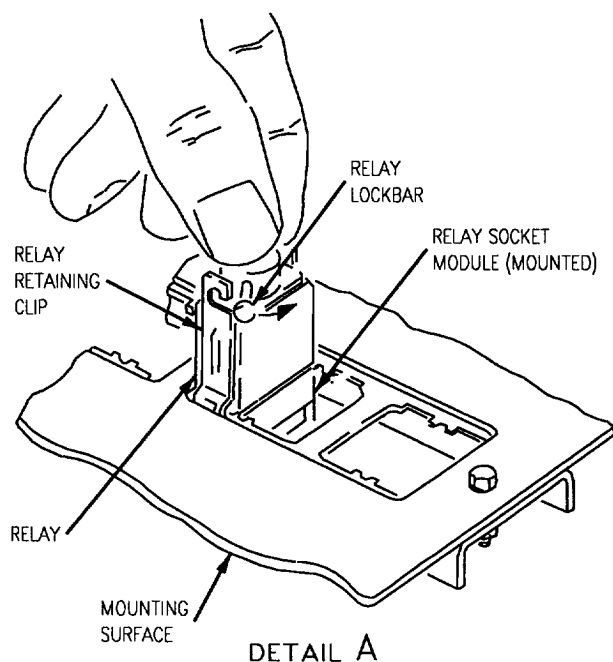


To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

Avoid fingerprints, dust, dirt, and moisture on wire insulation in and adjacent to connector ground.

a. Remove relay by applying pressure to relay lockbar and turning counter-clockwise to unlock.

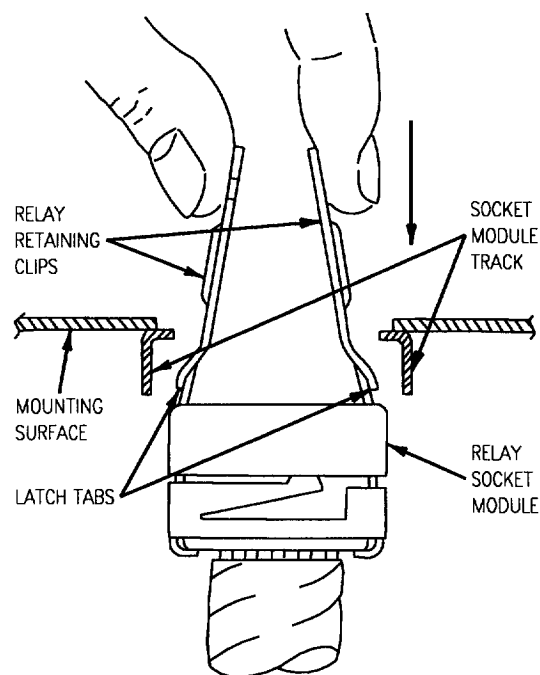
b. Lift relay out of socket module. See figure 1.



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Figure 1. Relay Removal

c. Slightly squeeze relay retaining clips until latch tabs release. Apply downward pressure to remove socket module. See figure 2.



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Figure 2. Socket Module Assembly Removal

5. CORROSION CONTROL

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

■ a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct relay socket module data figure number. The relay socket module figure number is listed in the Reference Designation to Figure Number Index within this work package.

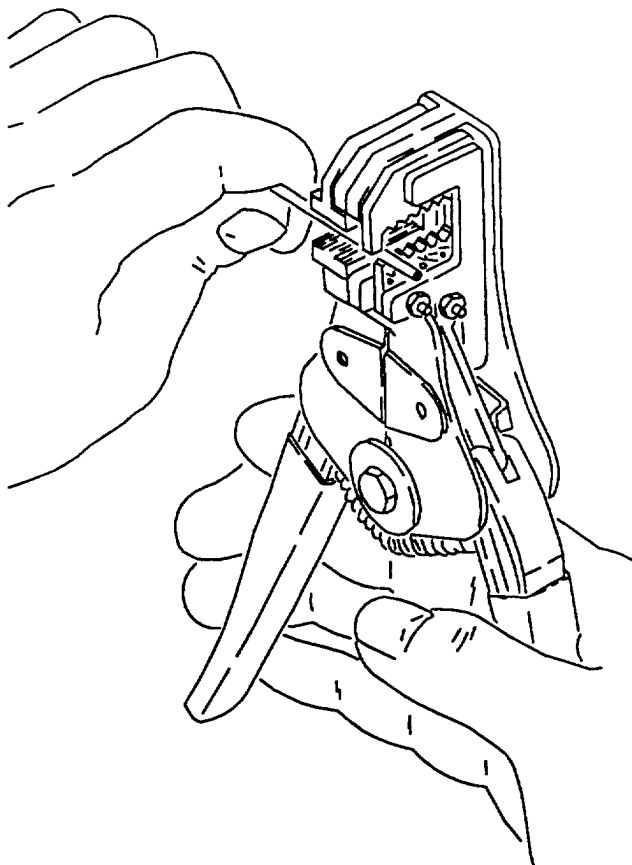
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

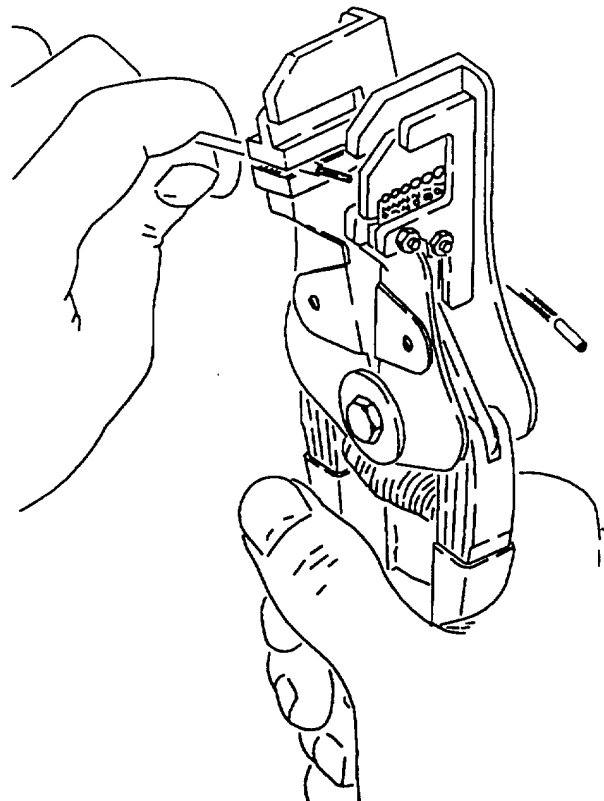
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 3.



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Figure 3. Placing Wire in Slot of Stripping Tool

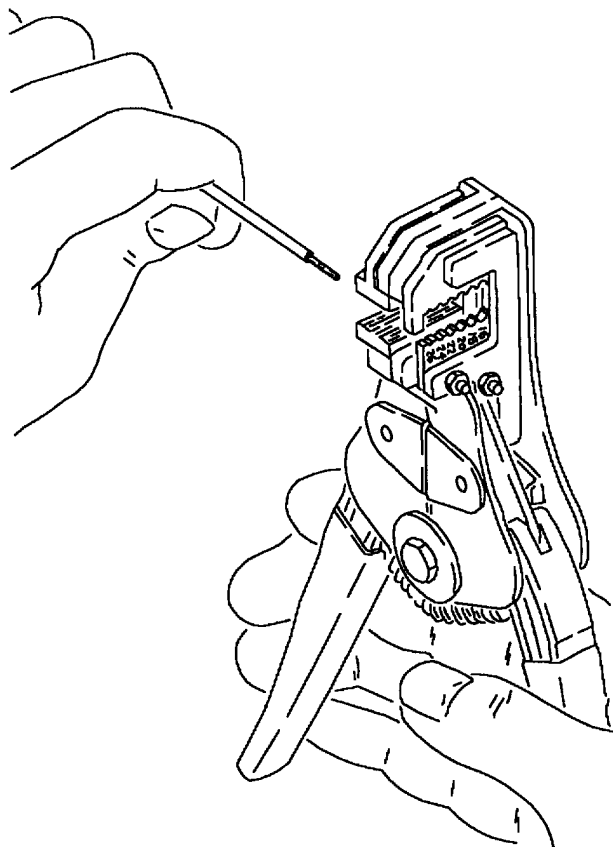
e. Close handles together as far as they will go. See figure 4.



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Figure 4. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 5.

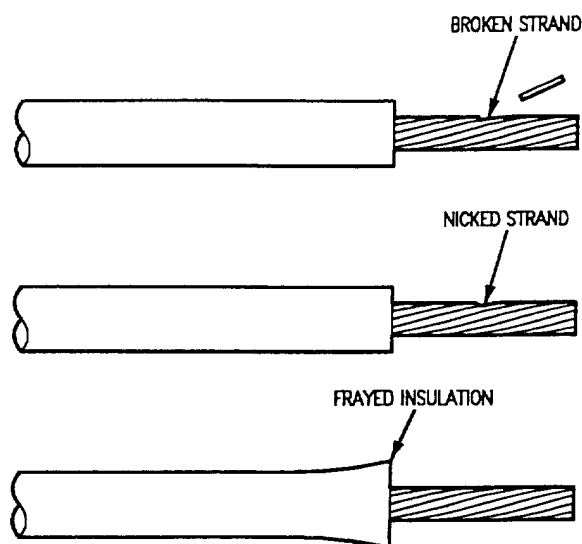


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Figure 5. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 6 are unacceptable.



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Figure 6. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct relay socket module data figure number. The relay socket module data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

8. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

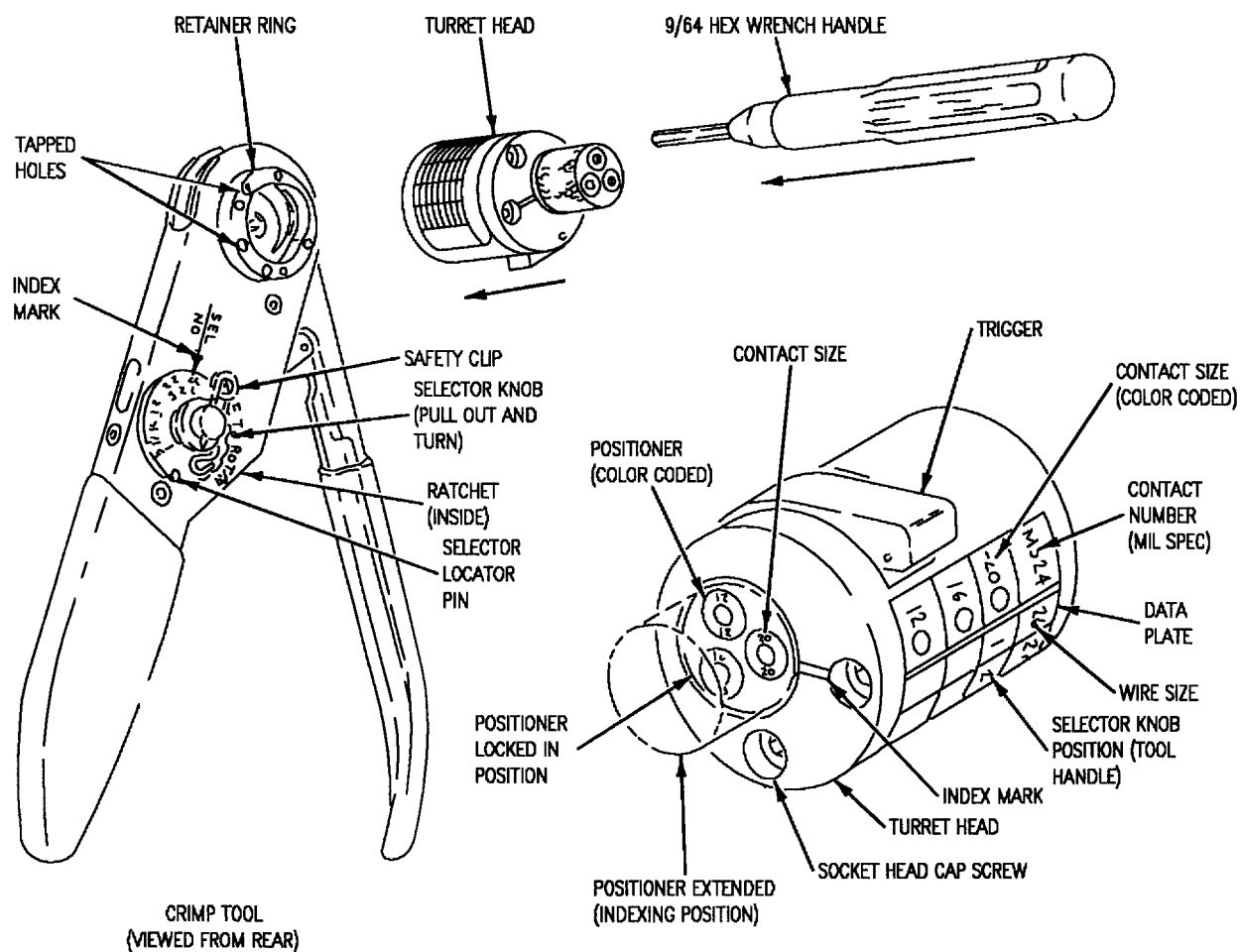
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 7.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes, open handles completely and lift off crimp tool.



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Figure 7. M22520/1-01 Crimp Tool Handle and Turret Head

9. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

10. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

11. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct relay socket module data figure number. The relay socket module data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

12. REMOVAL AND INSTALLATION OF POSITIONER.

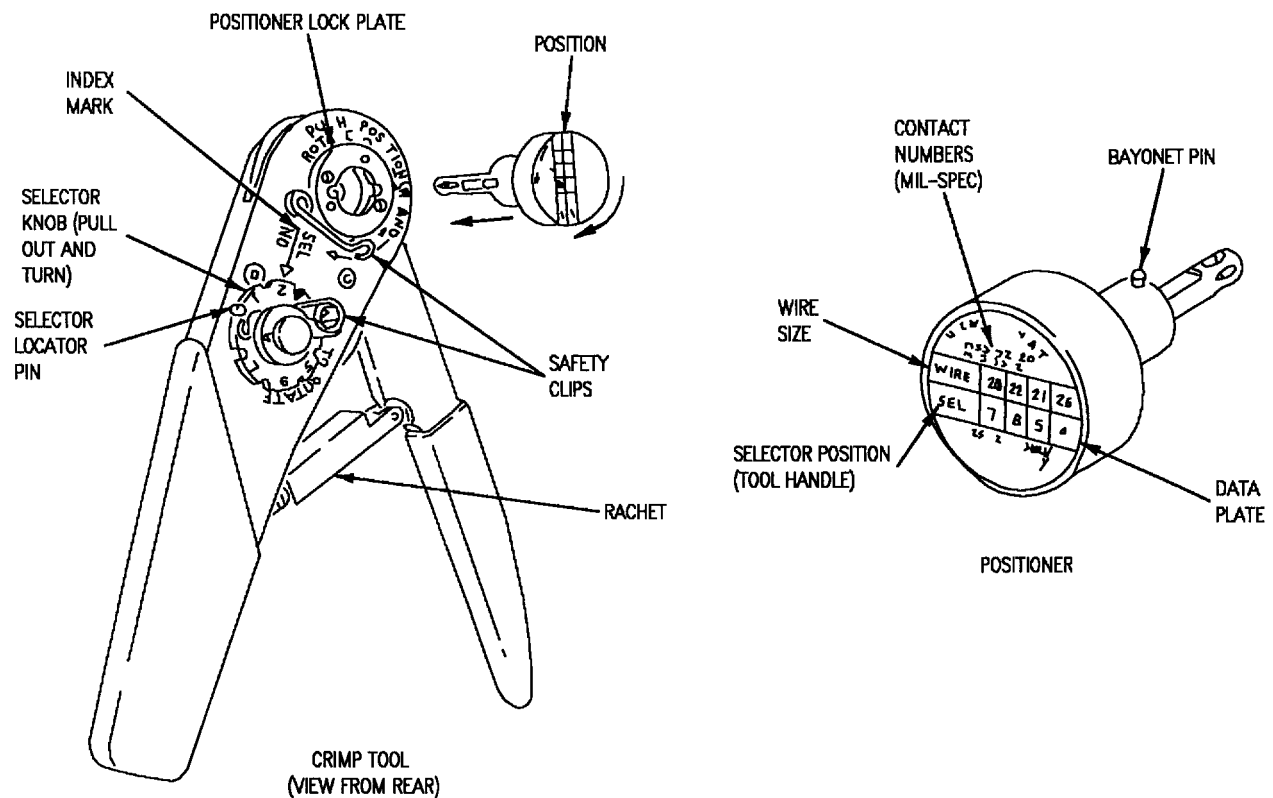
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 8.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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Figure 8. M22520/2-01 Crimp Tool Handle and Positioner

13. SETTING SELECTOR KNOB.

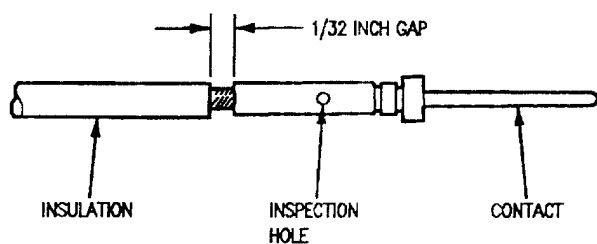
- Locate wire size on data plate of positioner and note corresponding selector number.
- Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- Install safety clip.

14. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- Select correct contact specified in table 2 for affected relay socket module part number.
- Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- Visually inspect gap dimension between contact and insulation as shown in figure 9.



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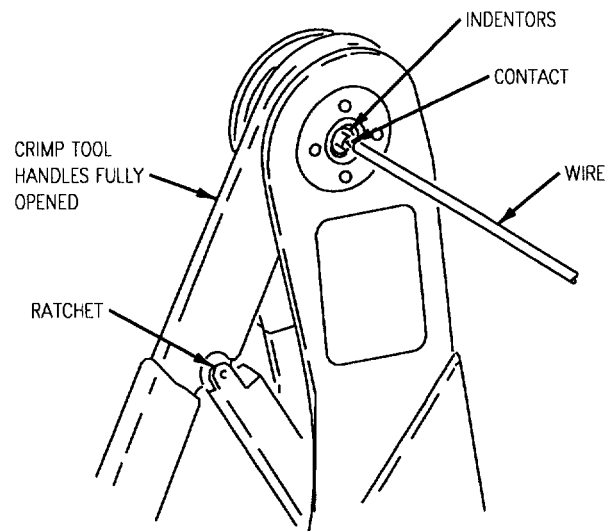
Figure 9. Strip Gap Check

- Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 10, detail A.

NOTE

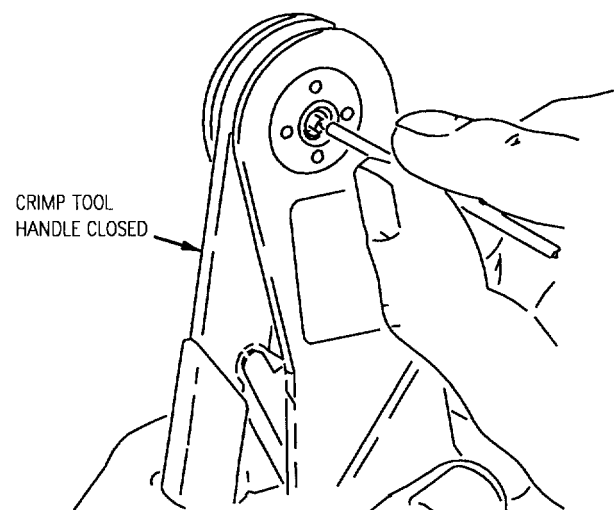
Crimp tool will not release until crimping cycle is completed.

- Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 10, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

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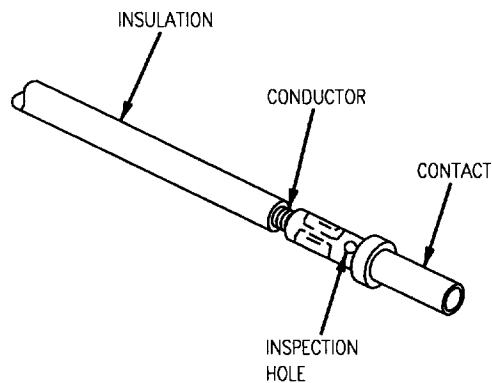
Figure 10. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 11.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



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Figure 11. Inspection of Crimped Contact

15. INSERTION OF CONTACT INTO RELAY SOCKET MODULE.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If relay socket module requires disassembly, refer to paragraph 4.

b. Select insertion tool specified in table 1 Tool Data in the correct relay socket module data figure number. The relay socket module

data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

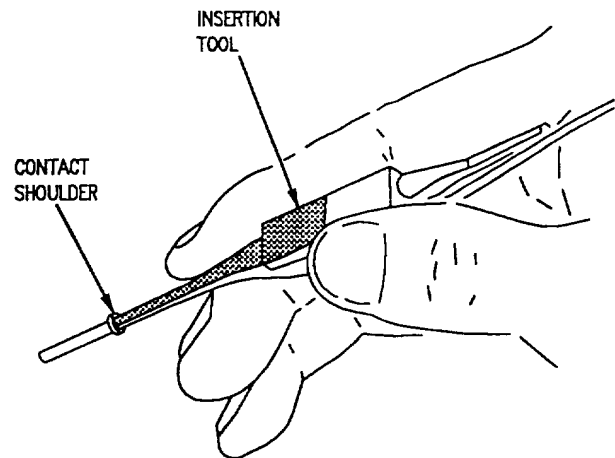
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on relay socket module insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 12.



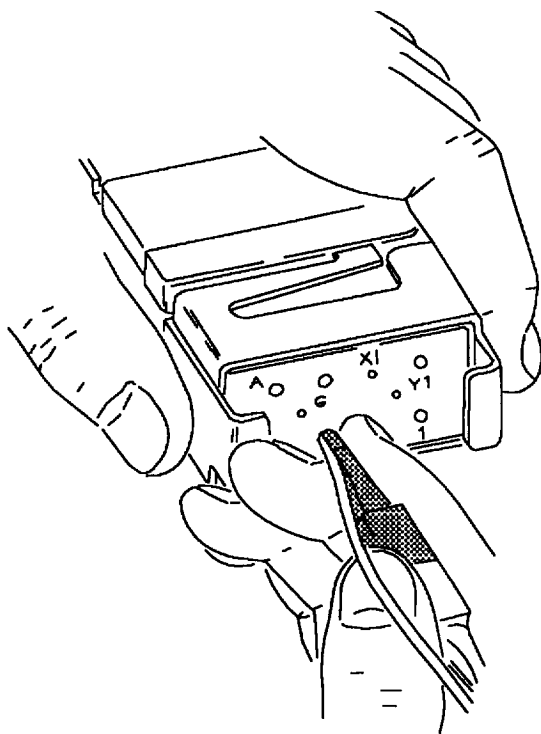
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 12. Inserting Contact into Insertion Tool

e. At right angle to module insert, align contact with cavity in module and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 13.

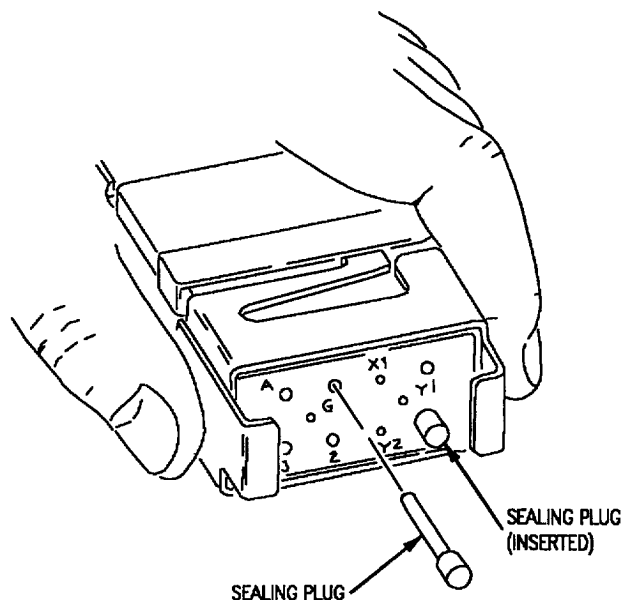


F/A-18-WRM-(260-1)02-SCAN

Figure 13. Inserting Contacts into Relay Socket Module

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 14.



F/A-18-WRM-(260-2)02-SCAN

Figure 14. Inserting Sealing Plug(s) into Relay Socket Module

16. WIRED CONTACT REMOVAL FROM RELAY SOCKET MODULE.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If relay socket module requires disassembly, refer to paragraph 4.

b. Select removal tool specified in table 1 Tool Data in the correct relay socket module data figure number. The relay socket module

data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

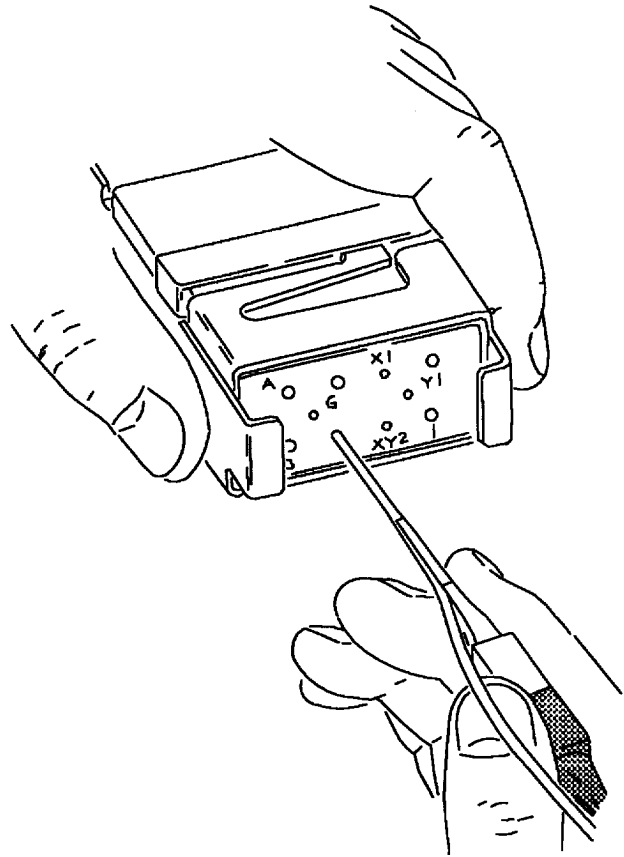
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in module insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on relay socket module insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing relay socket module insert.

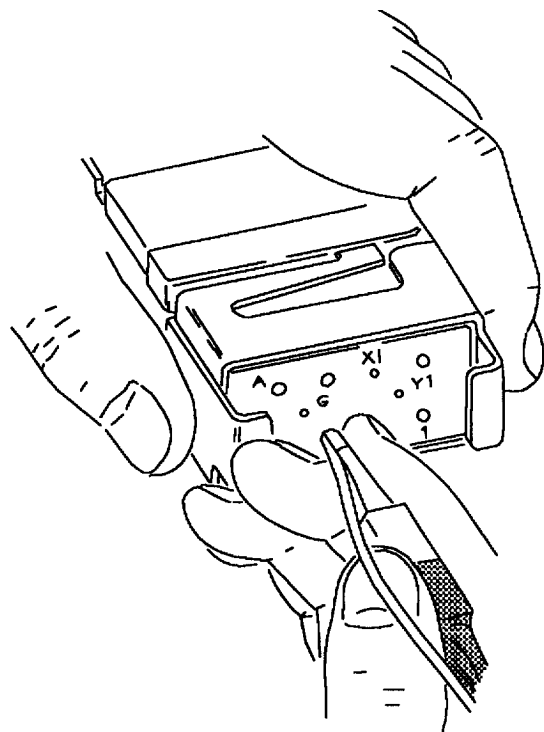
e. Slide removal tool along wire at right angle to relay socket module insert and align with contact cavity. See figure 15.



F/A-18-WRM-(260-3)02-SCAN

Figure 15. Removal Tool on Wire

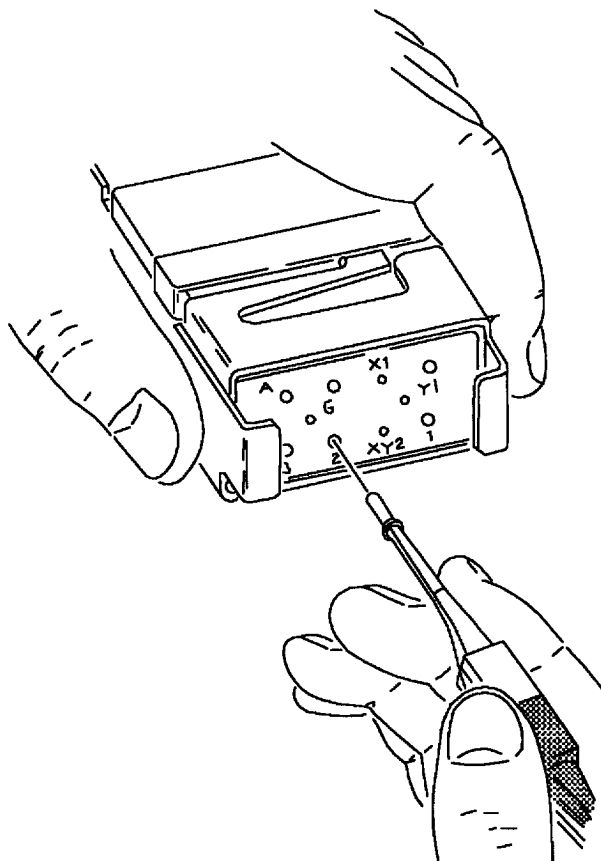
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 16.



F/A-18-WRM-(260-9)02-SCAN

Figure 16. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 17.



F/A-18-WRM-(260-4)02-SCAN

Figure 17. Removing Contact from Relay Socket Module

17. UNWIRED CONTACT REMOVAL FROM RELAY SOCKET MODULE.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If relay socket module requires disassembly, refer to paragraph 4.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in relay socket module insert.

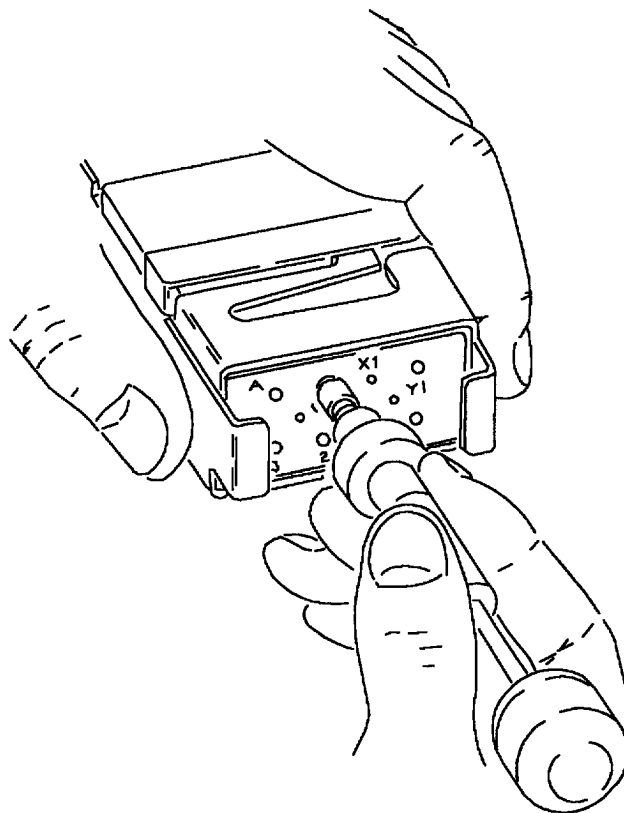
c. Align unwired removal tool, at the rear and at a right angle to relay socket module, with contact to be removed.

WARNING

Isopropyl alcohol highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on relay socket module insert grommet face or by dipping tool.

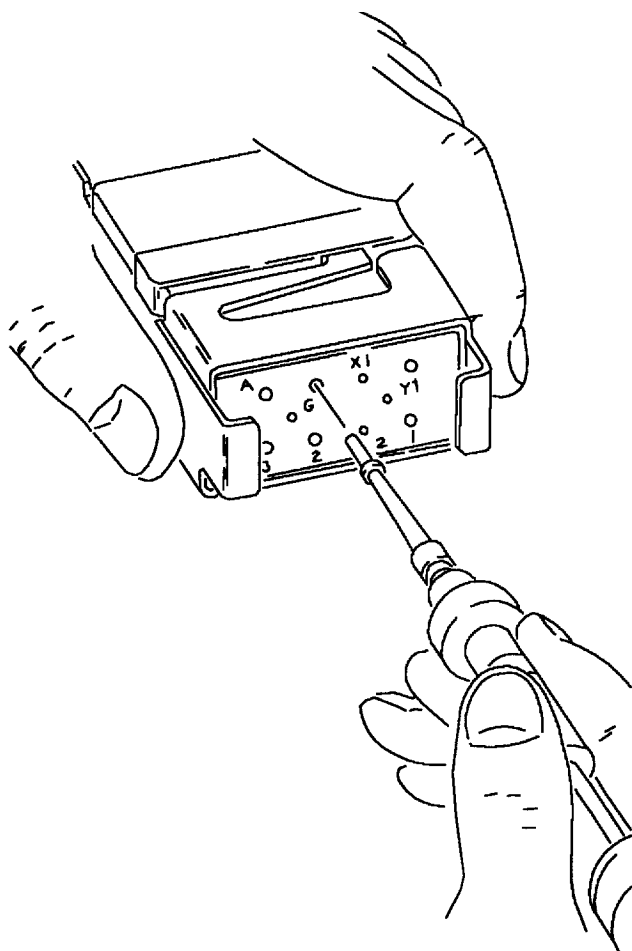
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 18.



F/A-18-WRM-(260-5)02-SCAN

Figure 18. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 19.



F/A-18-WRM-(260-6)02-SCAN

Figure 19. Extracting Contact from Relay Socket Module

g. Remove contact by holding unwired removal tool and press plunger forward.

18. BROKEN WIRE CONTACT REMOVAL FROM RELAY SOCKET MODULE.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If relay socket module requires disassembly, refer to paragraph 4.

b. Remove hardware from rear of relay socket module and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected relay socket module part number.

WARNING

Isopropyl alcohol highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on relay socket module insert grommet face or by dipping tool.

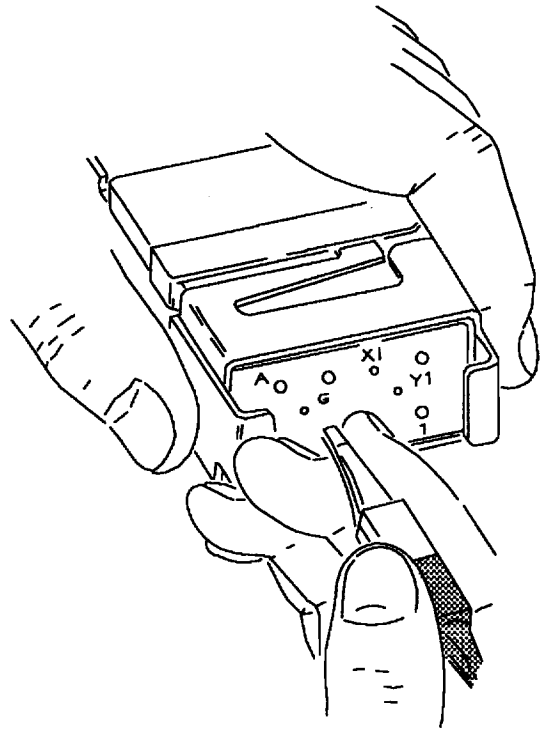
e. Insert tip of removal tool 1/8-inch into cavity at rear of relay socket module.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into relay socket module using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 20.



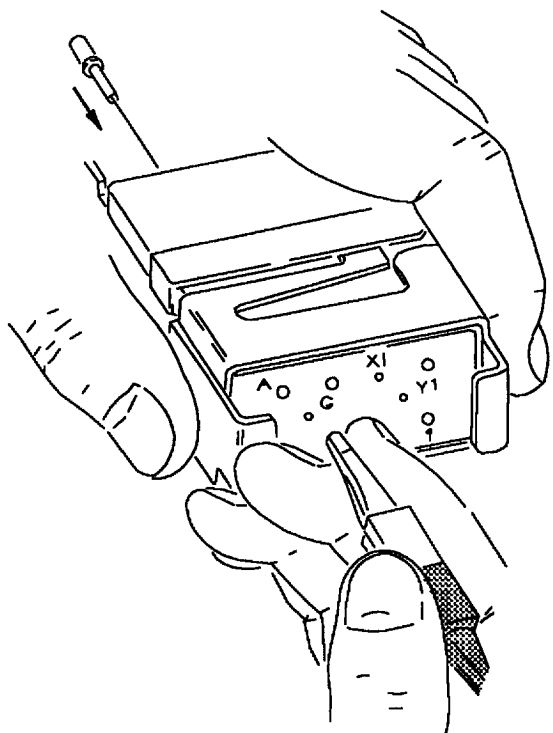
F/A-18-WRM-(260-7)02-SCAN

Figure 20. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to relay socket module insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 21.



F/A-18-WRM-(260-8)02-SCAN

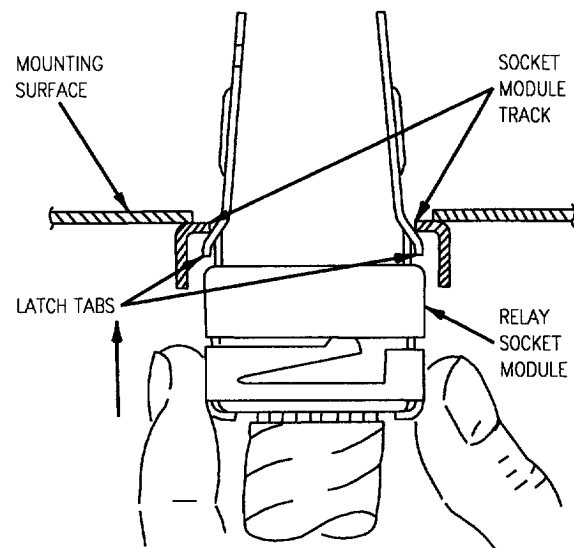
Figure 21. Broken Wire Contact Removal

19. REASSEMBLY PROCEDURES.

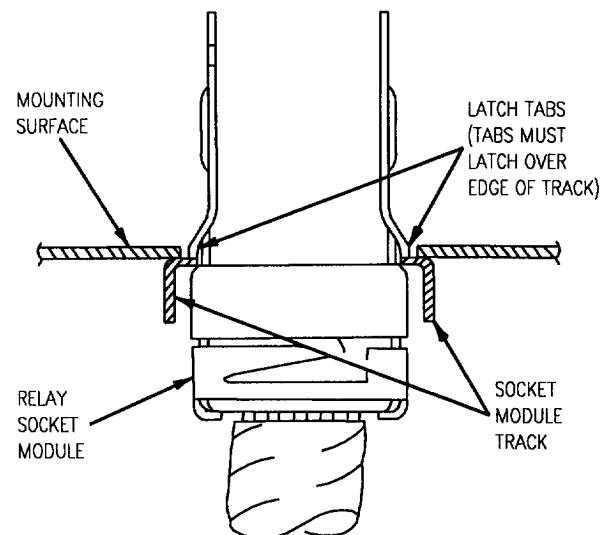


To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Push socket module assembly up from bottom of socket module track. Latch tabs must latch over edge of track. See figure 22.



DETAIL A



DETAIL B

F/A-18-WRM-(250-5)02-CAT1

**Figure 22. Socket Module
Assembly Installation**

NOTE

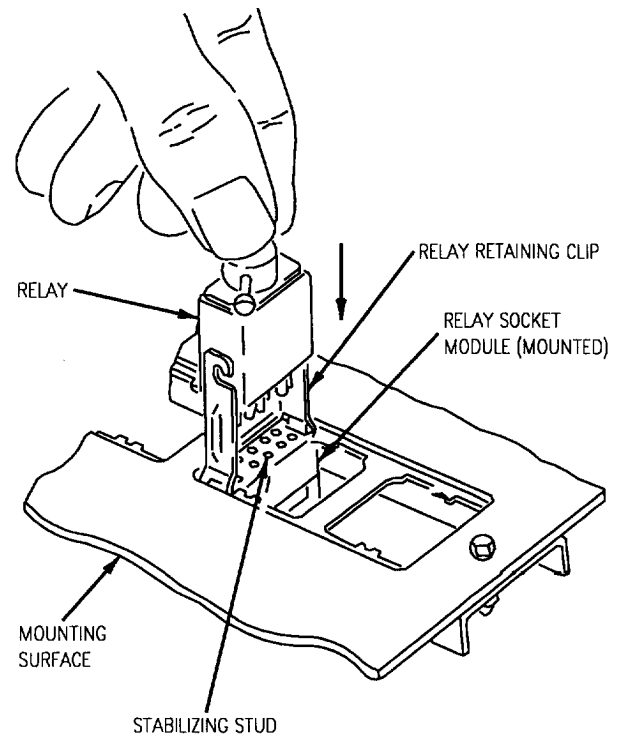
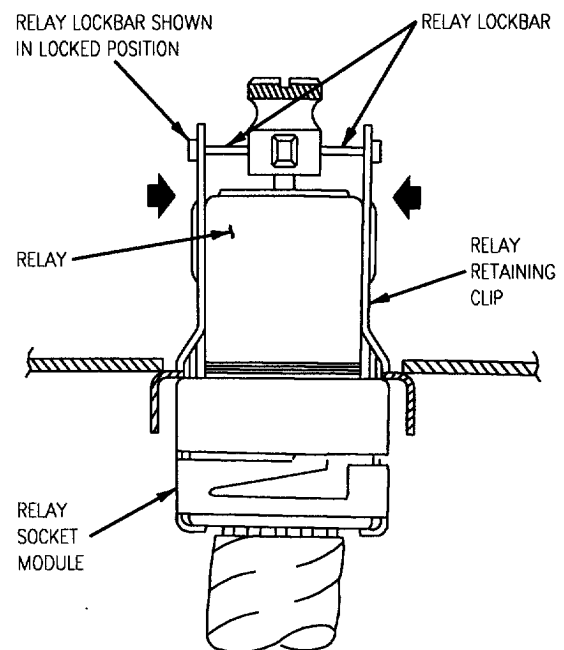
In blind areas, use finger tip to feel studs to determine relay clocking requirements.

b. Make sure stabilizing studs are aligned correctly. See figure 23, detail A.

CAUTION

Do not determine clocking requirements of a relay by location of the polarizing pins. The relay socket has multiple holes for these pins. Some holes are filled with a hard compound to prevent inserting relay backwards.

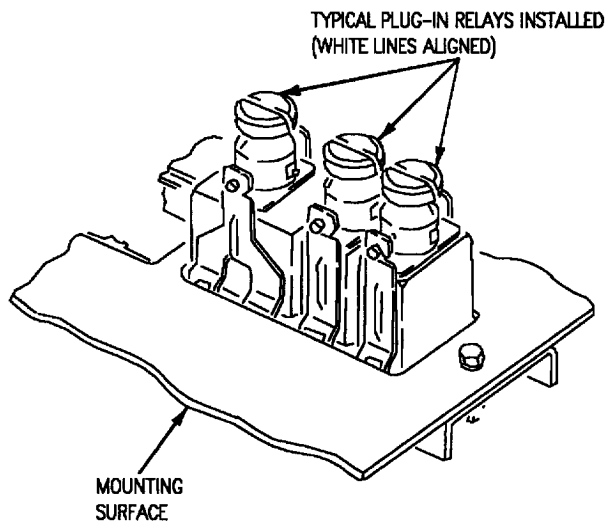
c. Install relay. Make sure relay lockbar is latched into relay retaining clip. See figure 23, detail B.

**DETAIL A****DETAIL B**

F/A-18-WRM-(250-3)02-CATI

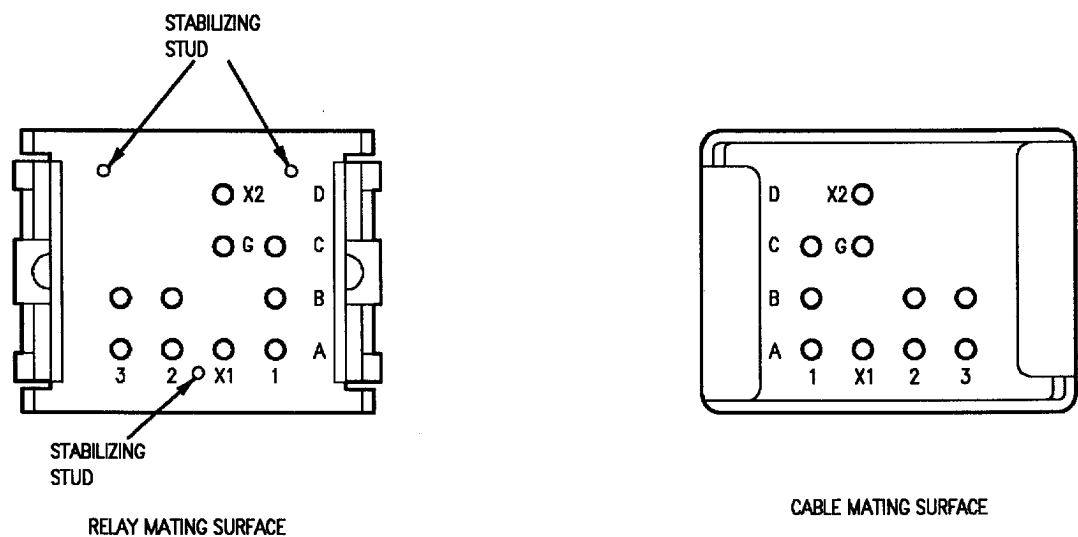
Figure 23. Relay Installation

d. Make sure that white lined slots on top of relays are aligned. See figure 24.



F/A-18-WRM-(250-4)02-SCAN

Figure 24. Relay Alignment



F/A-18-WRM-(201-1)01-CAT1 20

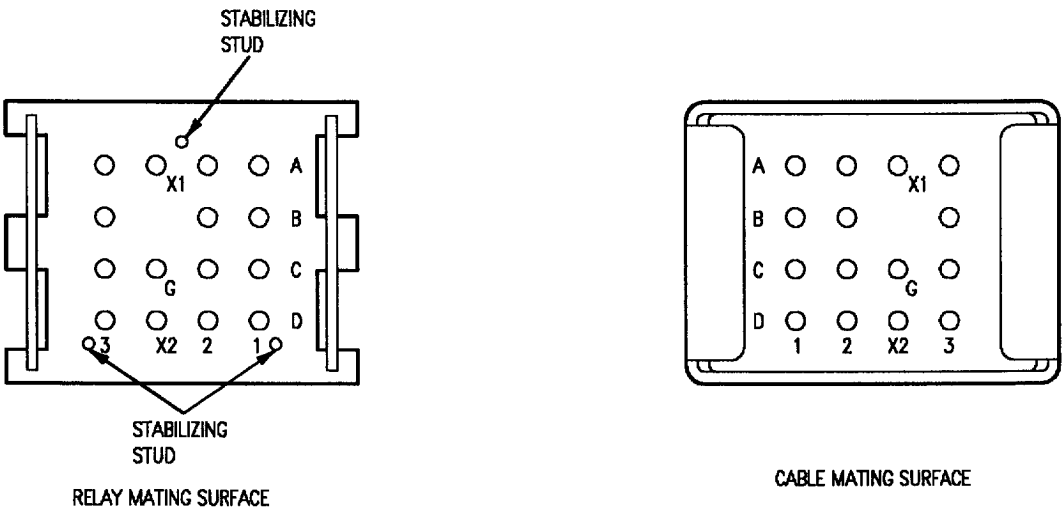
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool	M81969/14-03
Removal Tool	M81969/14-03
Removal Tool (Unwired)	DRK105HDL
Removal Tool Probe (Blue)	DRK105-16-1

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
X1, X2, A1 THRU A3, B1 THRU B3, C1 AND G	7/32	M39029/57-358	MS27488-16

Figure 25. BSCTD210-9 Socket Module Assembly



F/A-18-WRM-(209-1)01-CAT1 20

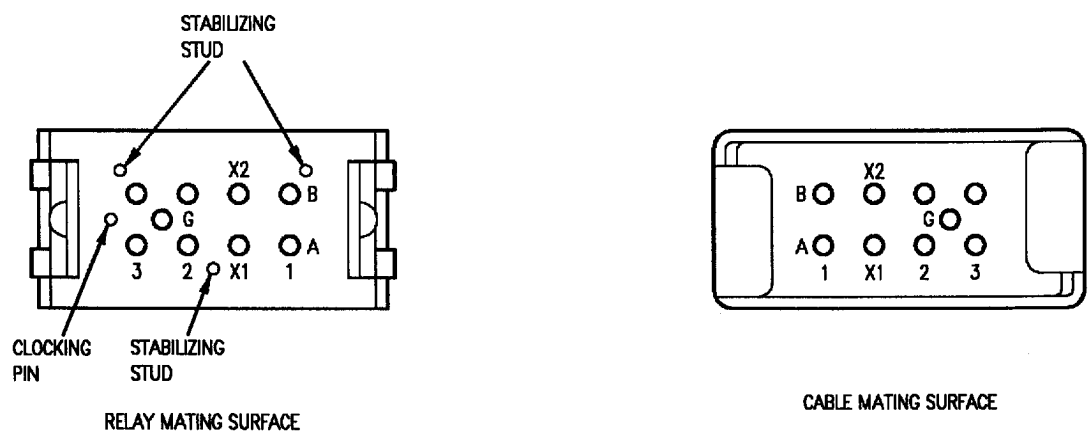
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-10
Insertion Tool	M81969/14-02
Removal Tool	M81969/14-02
Removal Tool (Unwired)	DRK105HDL
Removal Tool Probe (Red)	DRK105-20-1

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
X1, X2, A1 THRU A3, B1 THRU B3, C1 THRU C3, D1 THRU D3, G	7/32	M39029/57-357	MS27488-20

Figure 26. BSE405-004 Socket Module Assembly



F/A-18-WRM-(206-1)01-CAT1 16

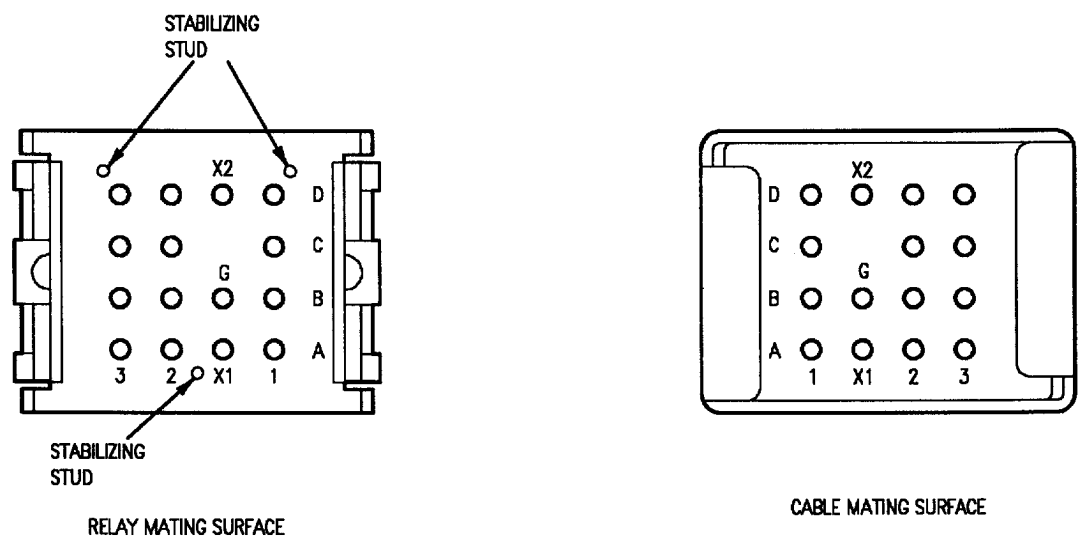
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-06
Insertion Tool	M81969/14-01
Removal Tool	M81969/14-01
Removal Tool (Unwired)	DRK105HDL
Removal Tool Probe (Yellow)	DRK105-22M-1
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool	M81969/14-03
Removal Tool	M81969/14-03
Removal Tool (Unwired)	DRK105HDL
Removal Tool Probe (Blue)	DRK105-16-1

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
G	7/32	M39029/57-354	MS27488-22
X1, X2, A1 THRU A3, B1 THRU B3	7/32	M39029/57-358	MS27488-16

Figure 27. CX3825 Socket Module Assembly



F/A-18-WRM-(202-1)01-CATI 20

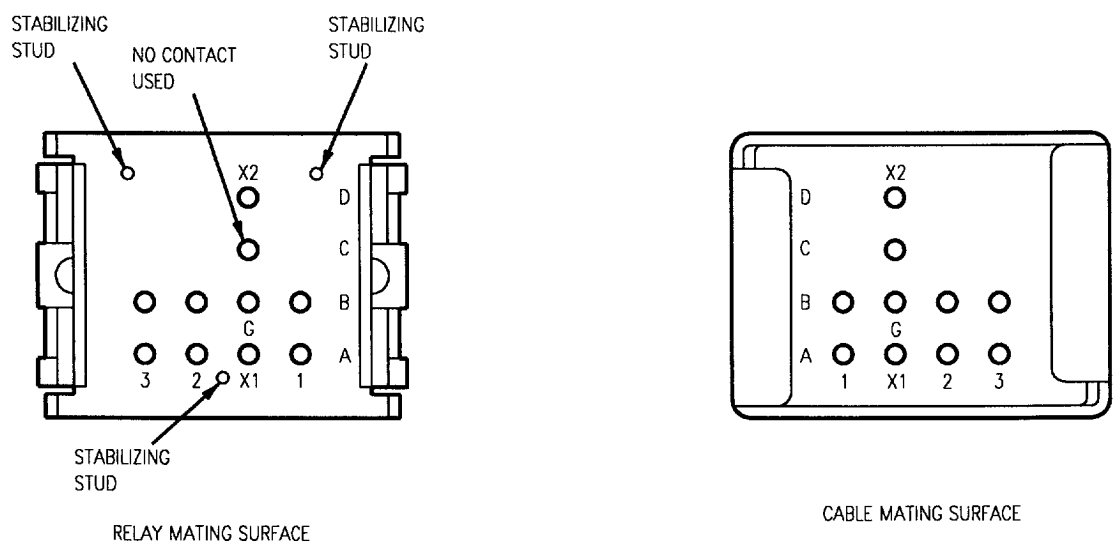
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-10
Insertion Tool	M81969/14-02
Removal Tool	M81969/14-02
Removal Tool (Unwired)	DRK105HDL
Removal Tool Probe (Red)	DRK105-20-1

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
X1, X2 A1 THRU A3, B1 THRU B3, C1 THRU C3, D1 THRU D3, AND G	7/32	M39029/57-357	MS27488-20

Figure 28. CX3826 Socket Module Assembly



F/A-18-WRM-(203-1)01-CATI

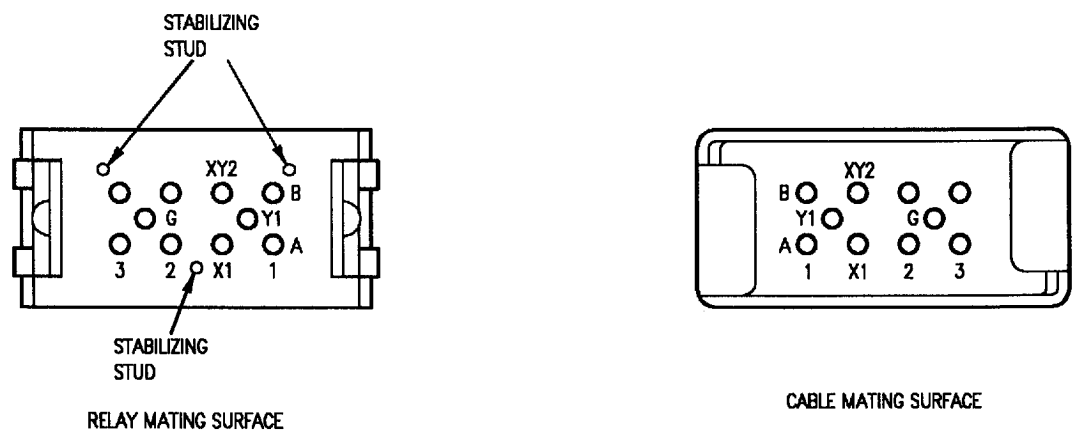
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool	M81969/14-03
Removal Tool	M81969/14-03
Removal Tool (Unwired)	DRK105HDL
Removal Tool Probe (Blue)	DRK105-16-1

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
X1, X2, A1 THRU A3, V1 THRU B3, AND G	7/32	M39029/57-358	MS27488-16

Figure 29. CX3831 Socket Module Assembly



F/A-18-WRM-(207-1)01-CAT1 16

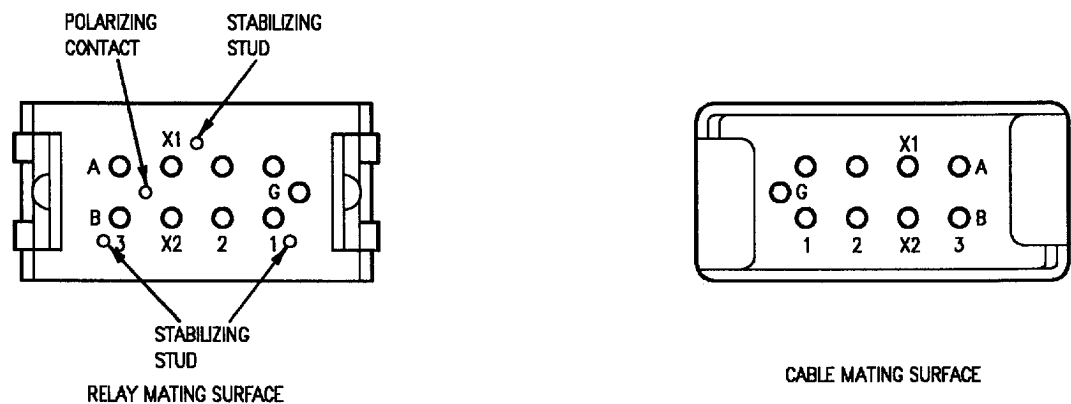
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-06
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A1 THRU A3, B1 THRU B3	7/32	M39029/57-358	MS27488-16
G, X1, XY2, Y1	7/32	M39029/57-354	MS27488-22

Figure 30. CX3833 Socket Module Assembly



F/A-18-WRM-(208-1)01-CAT1 16

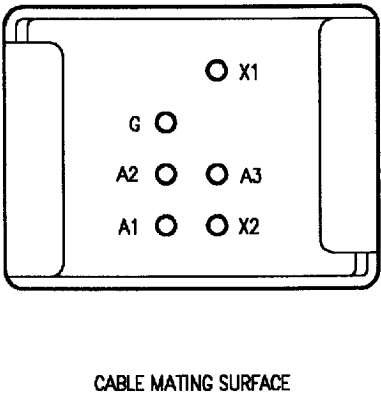
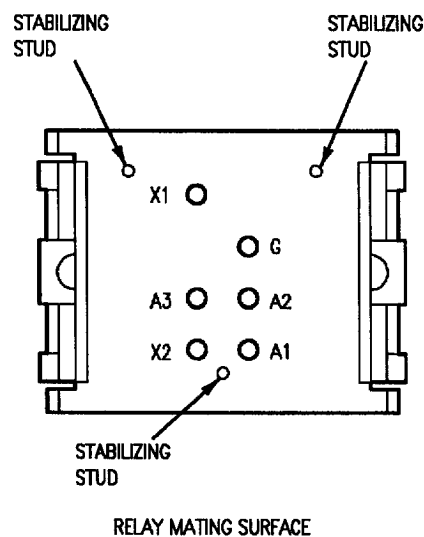
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-10
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-06
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK106-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
G	7/32	M39029/57-354	MS27488-22
X1, X2, A1 THRU A3, B1 THRU B3	7/32	M39029/57-357	MS27488-20

Figure 31. BSE205-003 Socket Module Assembly



F/A-18-WRM-(204-1)01-CAT1 20

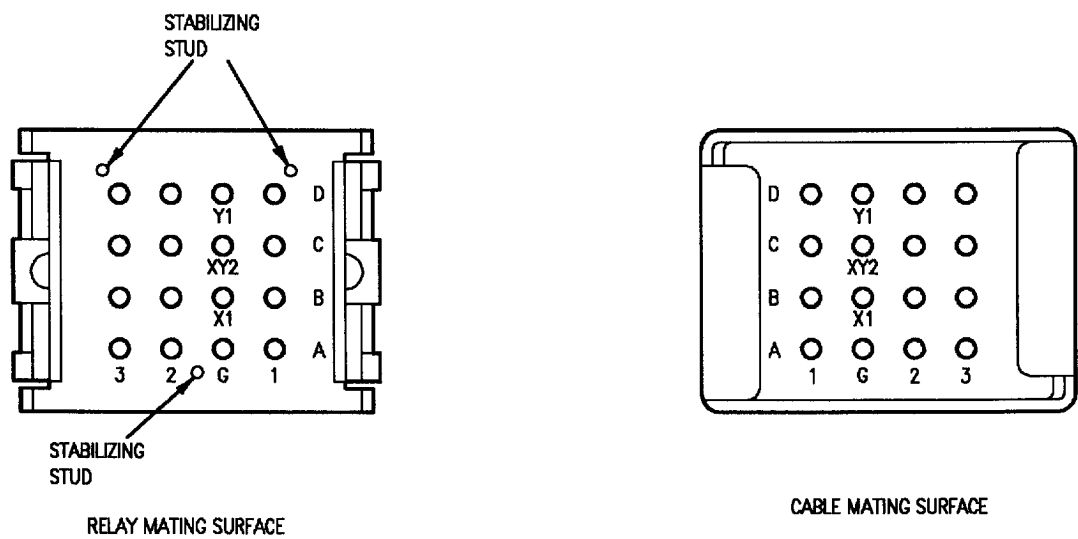
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1 -04
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-10
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
G	7/32	M39029/57-357	MS27488-20
X1, X2, A1 THRU A3	7/32	M39029/57-358	MS27488-16

Figure 32. BSCVSTD410-11 Socket Module Assembly



F/A-18-WRM-(205-1)01-CAT1 20

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-03
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Blue)	DRK105-16-2
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-10
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
G, X1, Y1, XY2 A1, THRU A3 B1 THRU B3, C1 THRU C3, D1 THRU D3	7/32 7/32	M39029/57-357 M39029/57-358	MS27488-20 MS27488-16

Figure 33. CX3834 Socket Module Assembly

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

WIRING REPAIR WITH PARTS DATA

DS07-27S-025 AND DD07-27S-025 (MIL-C-81703)

CONNECTOR REPAIR

This WP supersedes WP 177 00, dated 1 October 1993.

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

1. DESCRIPTION.

2. The DS07-27S-025 supersedes DD07-27S-025 connector. This connector is a circular environmental resistant, push-pull lanyard type connector that conforms to specification MIL-C-81703. This connector provides electrical continuity between mated shells before contact engagement. The contacts are located to be protected from handling damage and inadvertent electrical contact.

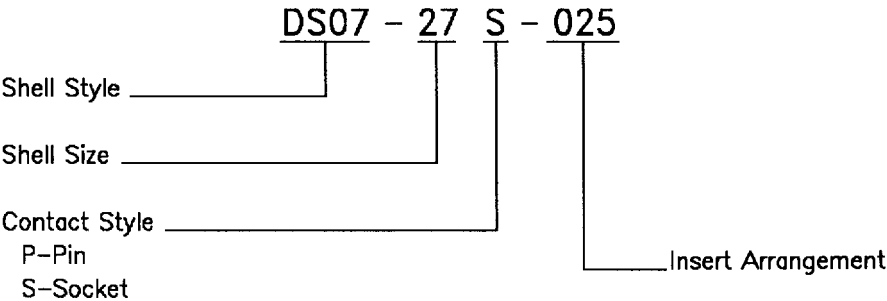
3. Each connector part number is supported by a figure which represents the contact arrangement, a refer-

ence designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for DS07-27S-025 and DD07-27S-025 connectors used on F/A-18 aircraft.



F/A-18-WRM-(500-19)01-CATI

Figure 1. Military Part Numbering System for MIL-C-81703 Connectors

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

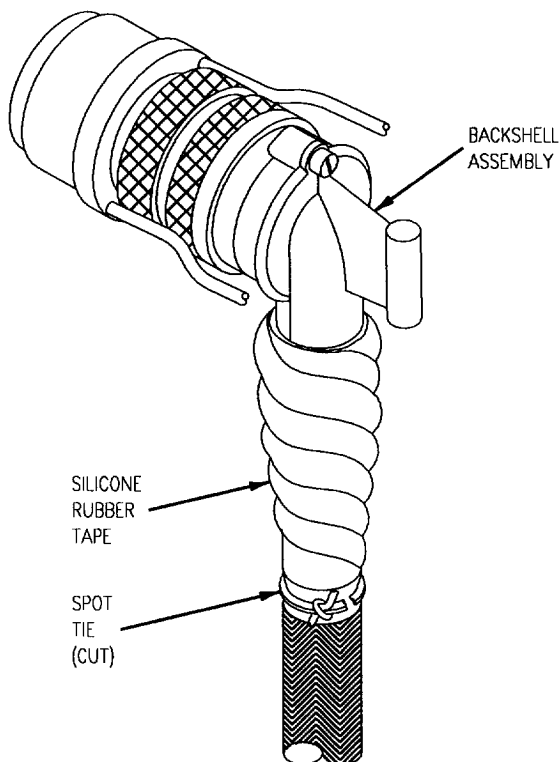
Specification or Part Number	Nomenclature
MIL-T-43435TYPE-2 SIZE-3FINISHC	Lacing Tape

Materials Required (Continued)

Specification or Part Number	Nomenclature
MIL-I-23594,TYPE 2 1/2IN.WIDE	Insulation Tape
MIL-I-46852,TYPE 2, 1.000IN.BLK	Silicone Rubber Tape
SN60WRMAP2-0-040	Solder
TT-I-735 GRADE B	Alcohol, Isopropyl

5. BACKSHELL DISASSEMBLY PROCEDURE.

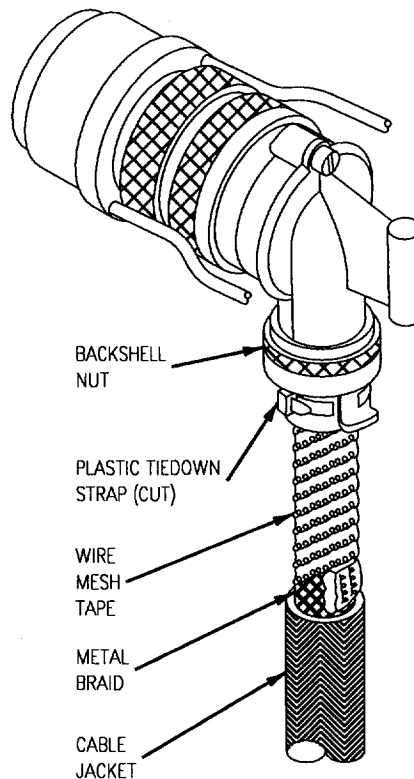
a. Remove spot tie from silicone rubber tape and remove tape. See figure 2.



F/A-18-WRM-(W177-1)01-CATI

Figure 2. Removing Spot Tie

b. Remove plastic tiedown strap from wire mesh tape. See figure 3.

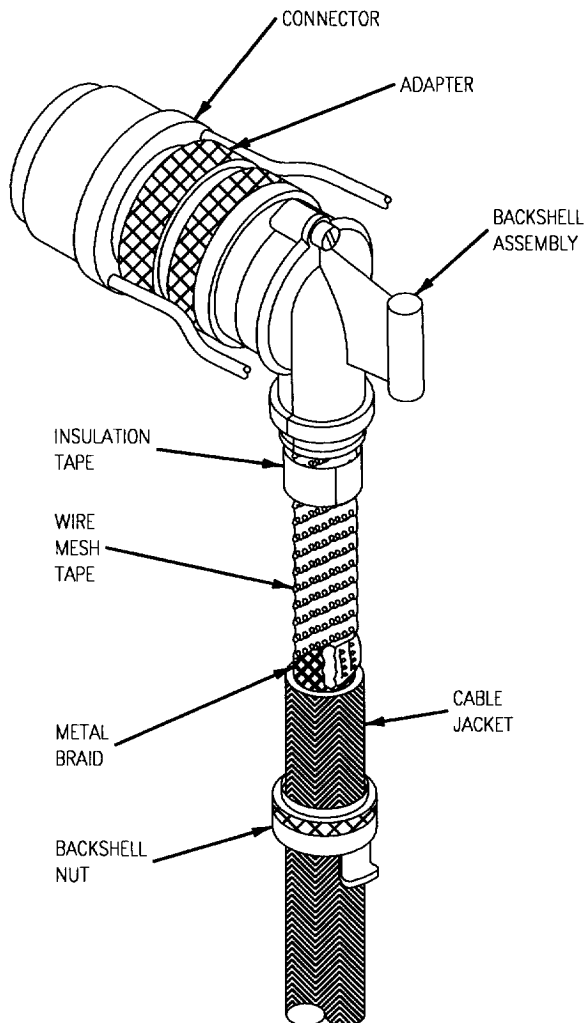


F/A-18-WRM-(W177-2)01-CATI

Figure 3. Removing Plastic Tiedown Strap

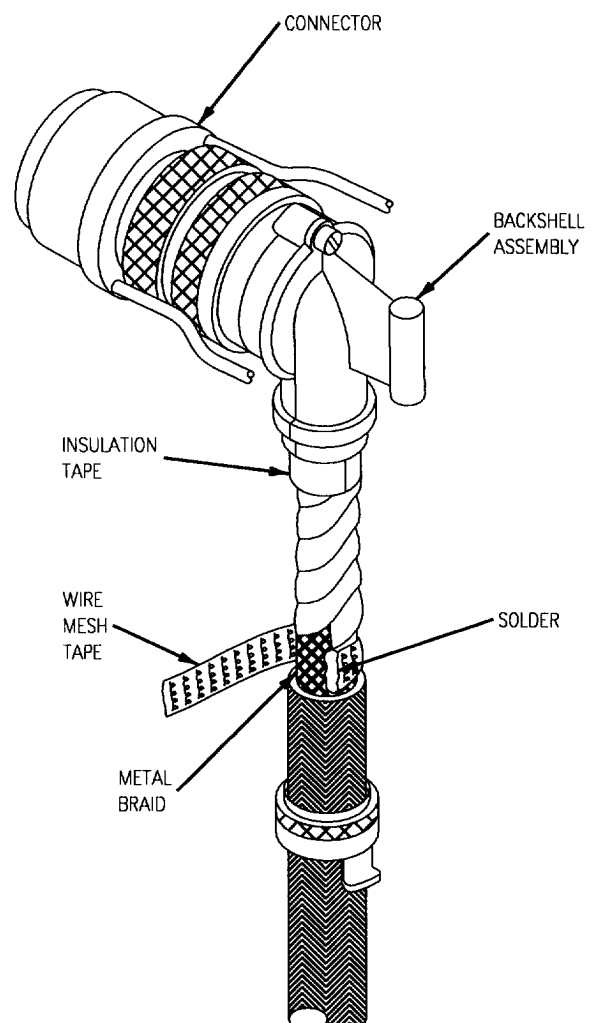
c. Remove backshell nut holding wire mesh tape and slide nut cable jacket. See figure 4.

d. Unwrap wire mesh tape from cable assembly and unsolder metal braid with soldering iron in repair set. See figure 5.



F/A-18-WRM-(W177-3)01-CATI

Figure 4. Removing Backshell Nut

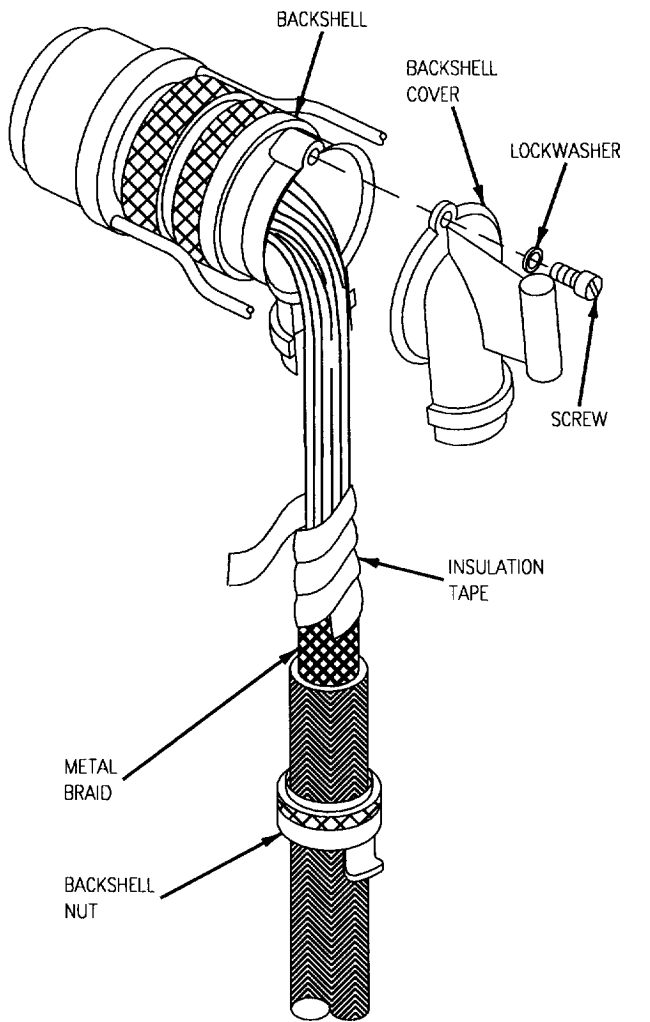


F/A-18-WRM-(W177-4)01-CATI

Figure 5. Removing Wire Mesh Tape

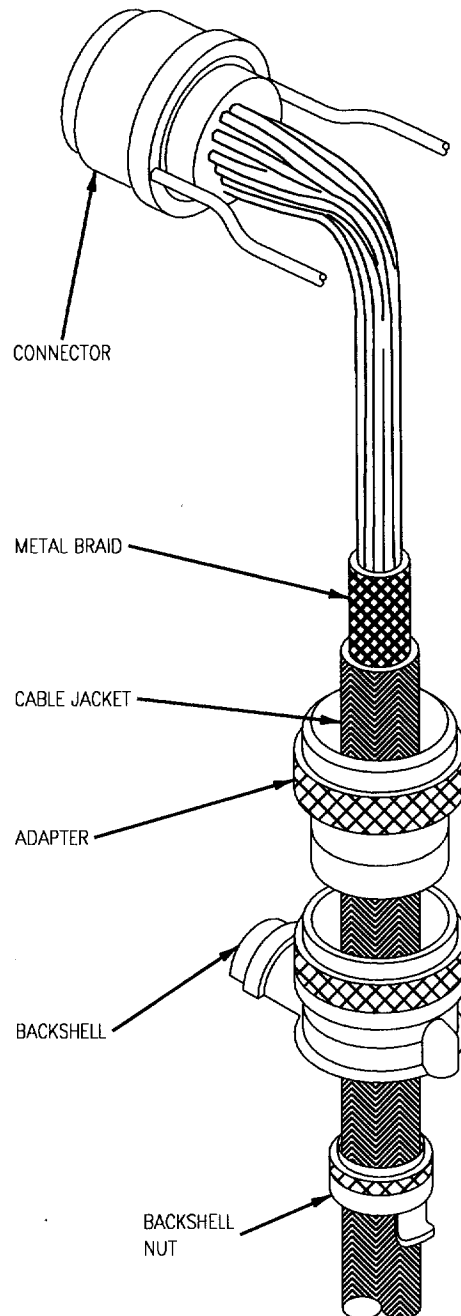
e. Remove screw and lock washer from backshell cover, and unwrap insulation rubber tape. See figure 6.

f. Remove backshell and adapter, if required use BT-BS-601 strap wrench. Move adapter and backshell on to cable jacket. See figure 7.



F/A-18-WRM-(W177-5)01-CAT1

Figure 6. Removal of Backshell Cover



F/A-18-WRM-(W177-6)01-CAT1

Figure 7. Removal of Backshell

6. CORROSION CONTROL.

a. For cleaning and anti-corrosion methods, refer to NAVAIR 16-1-540.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

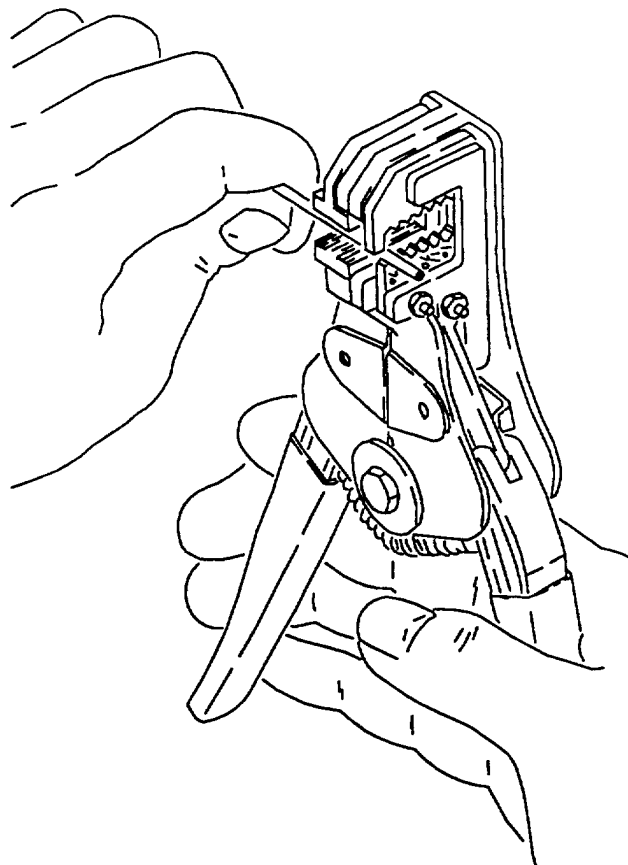
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-100 through A1-F18AC-WRM-800.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the specific wire type used.

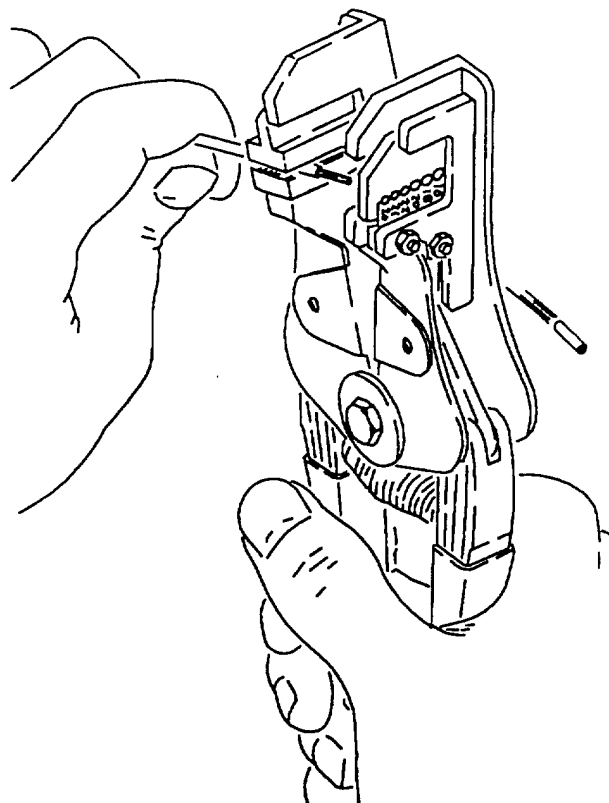
d. Insert wire into center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 8.



F/A-18-WRM-(401-1)01-SCAN

Figure 8. Placing Wire in Slot of Stripping Tool

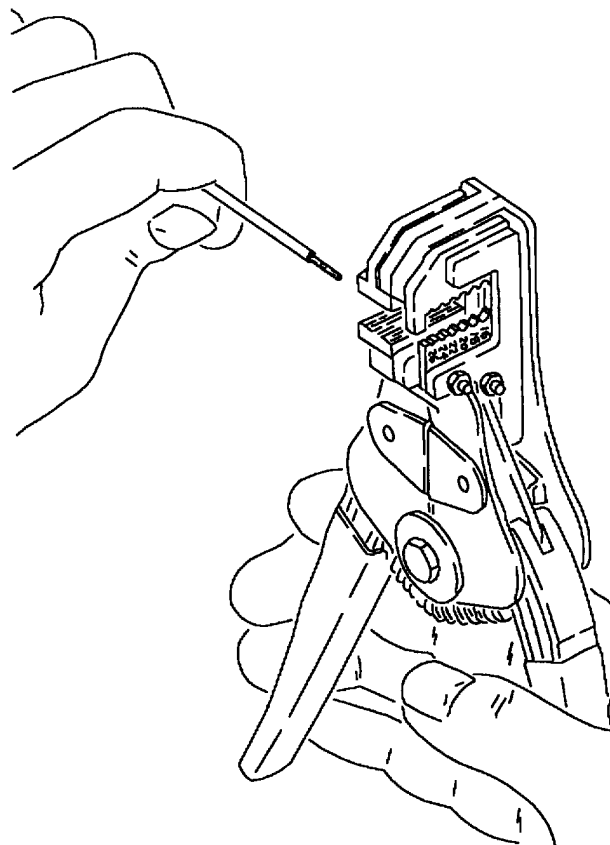
e. Close handles together as far as they will go. See figure 9.



F/A-18-WRM-(402-1)01-SCAN

Figure 9. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 10.

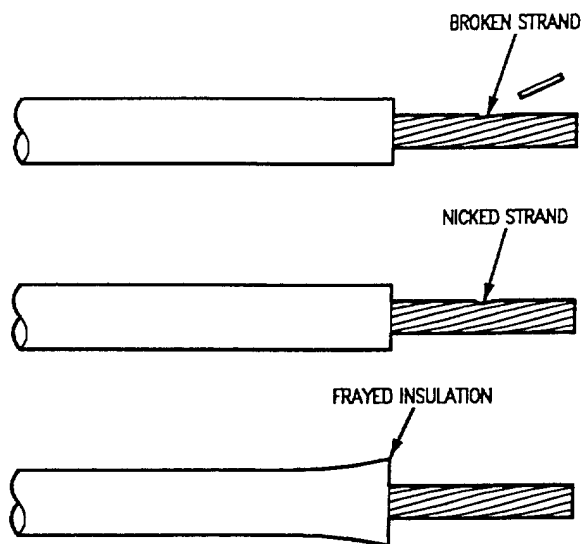


F/A-18-WRM-(403-1)01-SCAN

Figure 10. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. The below conditions are unacceptable. See figure 11.



F/A-18-WRM-(404-1)01-CAT1

Figure 11. Unacceptable Conditions

8. CRIMP TOOL M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool and positioner specified in table 1 Tool Data in the correct connector figure number. The connector figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF POSITIONER.

NOTE

Crimp tool must be fully open when inserting positioner and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 12.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.

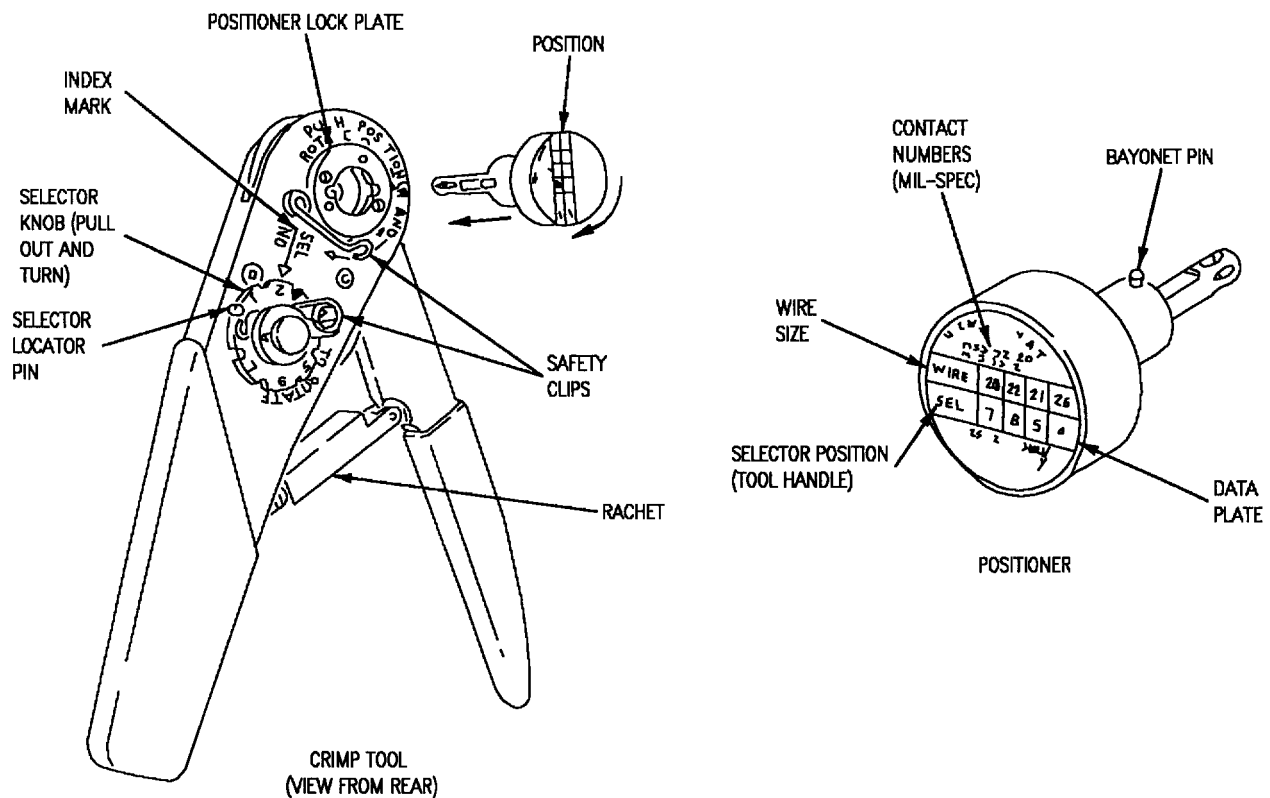


Figure 12. M22520/2-01 Crimp Tool and Positioner

10. SETTING SELECTOR KNOB.

- Locate wire size on data plate of positioner and note selector number.
- Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- Install safety clip.

11. CONTACT CRIMPING (800-20/30-1).

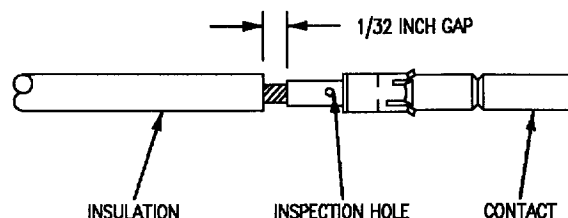


To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- Select correct contact specified in table 2 for affected connector part number.

- Insert stripped wire into contact and make sure that wire strands are visible in contact inspection hole.

- Inspect gap dimension between contact and insulation as shown in figure 13.



F/A-18-WRM-(W178-1)01-CATI

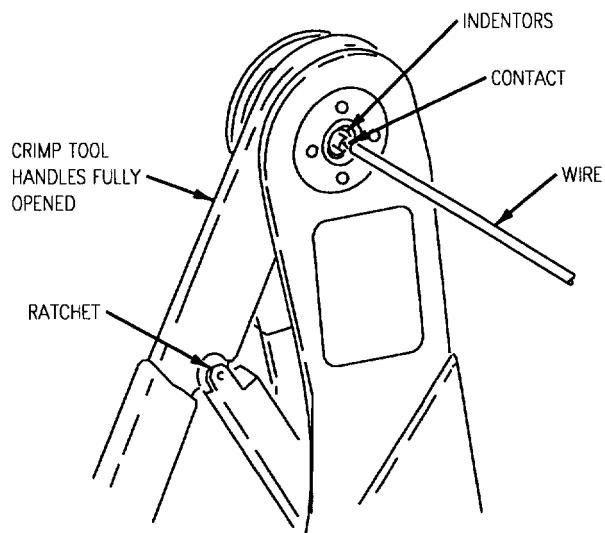
Figure 13. Strip Gap Check

d. Insert contact and wire into crimp tool indentors on front of crimp tool until contact bottoms in positioner/turrent. See figure 14, detail A.

NOTE

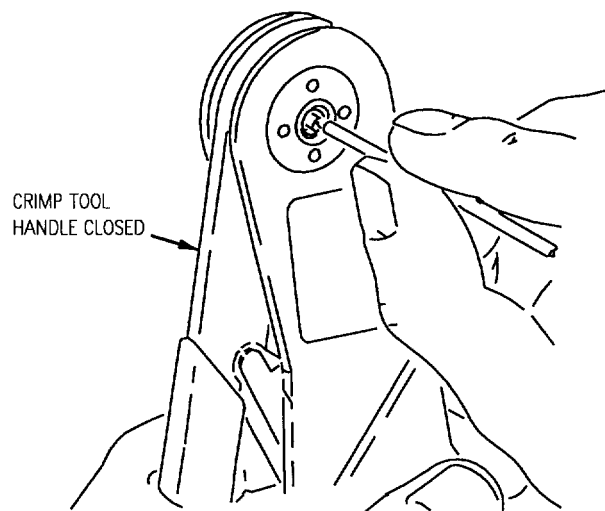
Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze crimp tool handles together smoothly until ratchet releases and crimp tool opens. See figure 14, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CAT1

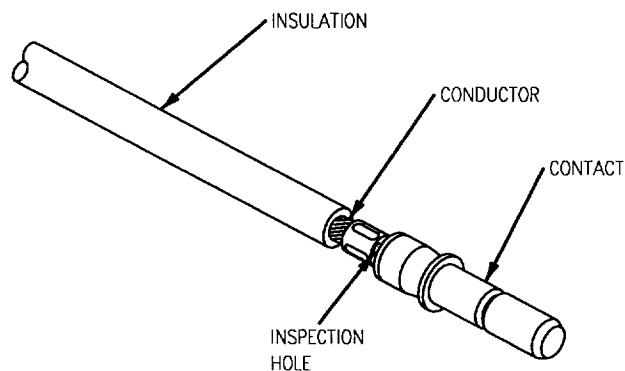
Figure 14. Contact Crimping

f. Remove crimped contact from crimp tool and inspect wire strands in inspection hole figure 15.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire must be visible in inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There must be no loose or nicked strands.



F/A-18-WRM-(W178-2)01-CATI

Figure 15. Inspection of Crimped Contact

12. CRIMP TOOL M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool and positioner specified in table 1 Tool Data in the correct connector figure number. The connector figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

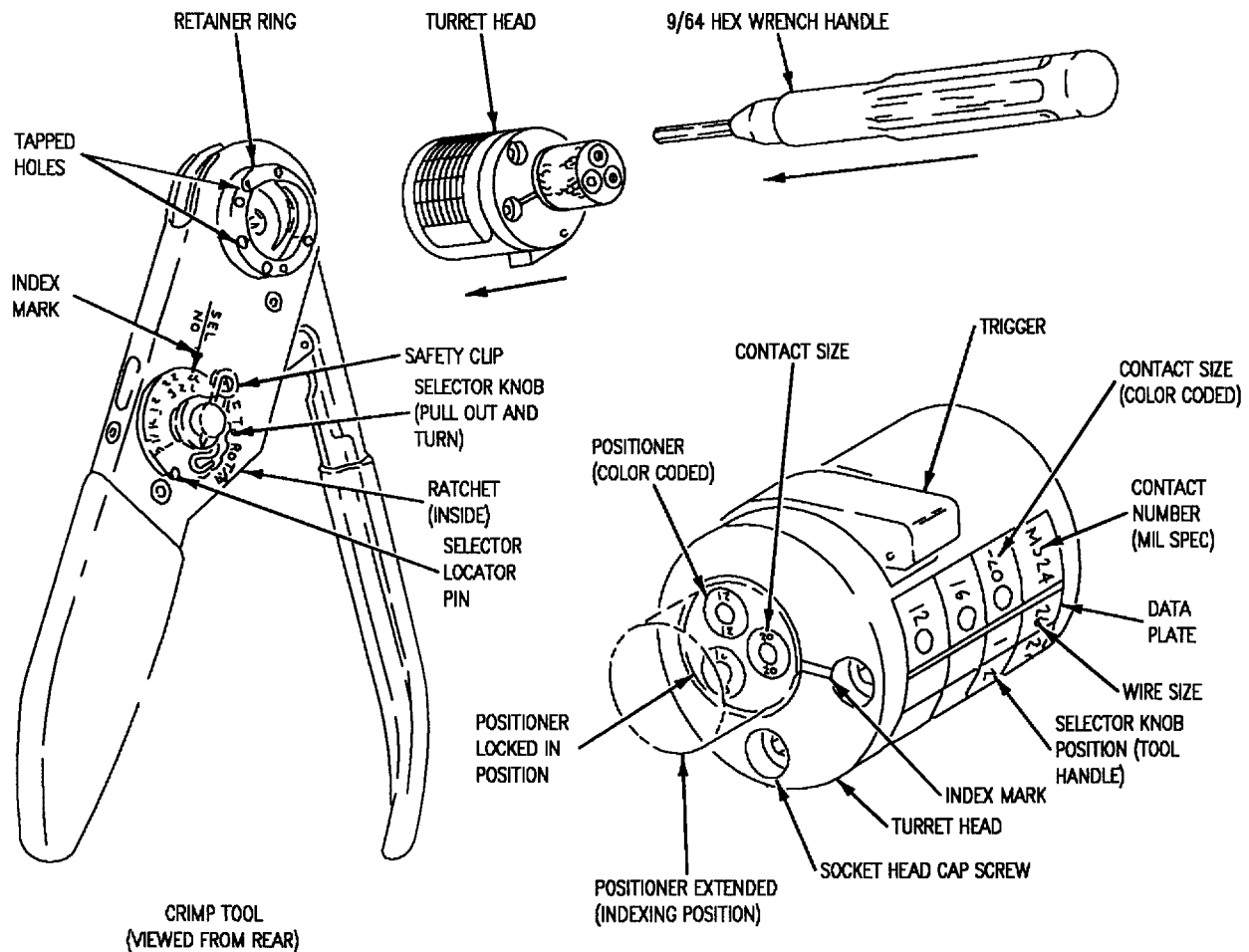
Crimp tool must be fully open when inserting turret head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 16.

b. Seat turret head on retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 16. M22520/1-01 Crimp Tool and Turret Head

14. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position required from color coded data plate on side of turret head.
- c. Rotate positioner until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

15. SETTING SELECTOR KNOB USING TURRET HEAD.

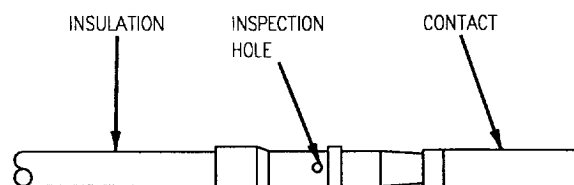
- a. Refer to data plate on turret head. The correct selector number is listed below the wire size and opposite the contact size.
- b. Remove the safety clip from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

16. CONTACT CRIMPING (M39029/32-259).



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure that wire strands are visible in contact inspection hole.
- c. Inspect gap dimension between contact and insulation as shown in figure 17.



F/A-18-WRM-(W177-7)01-SCAN

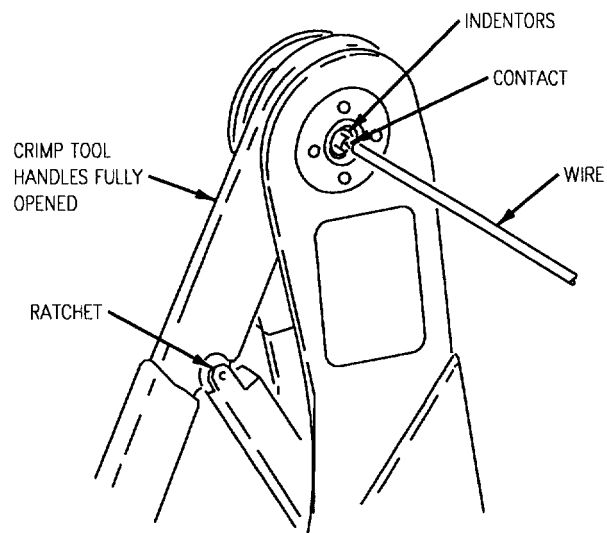
Figure 17. Insulation Strip Check

d. Insert contact and wire into crimp tool indentors on front of crimp tool until contact bottoms in positioner/turrent. See figure 18, detail A.

NOTE

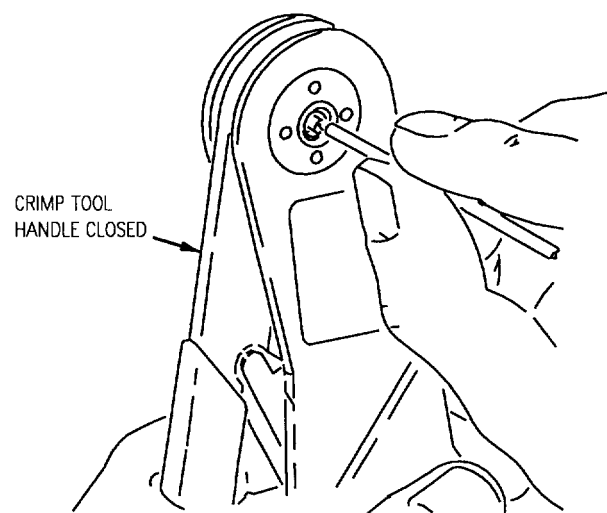
Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze crimp tool handles together smoothly until ratchet releases and crimp tool opens. See figure 18, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

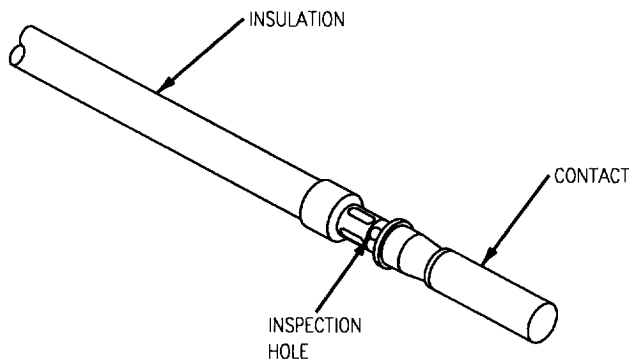
Figure 18. Contact Crimping

f. Remove crimped contact from crimp tool and inspect wire strands in contact inspection hole figure 19.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(W177-8)01-CATI

Figure 19. Inspection of Crimped Contact

17. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do backshell disassembly procedure paragraph 5.

b. Select insertion tool specified in table 1 Tool Data in the correct connector figure number. The connector figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

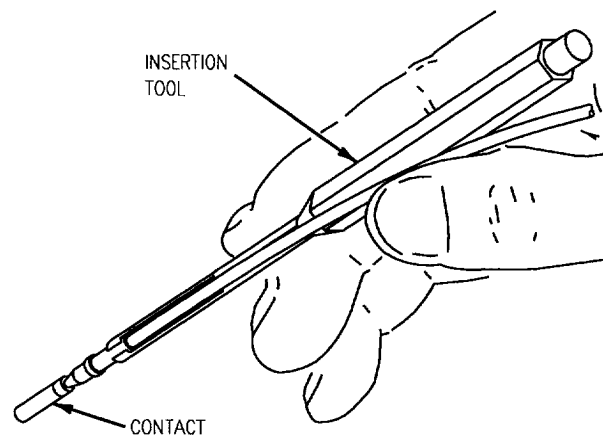
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position insertion tool tip over crimp barrel to butt contact shoulder. See figure 20.



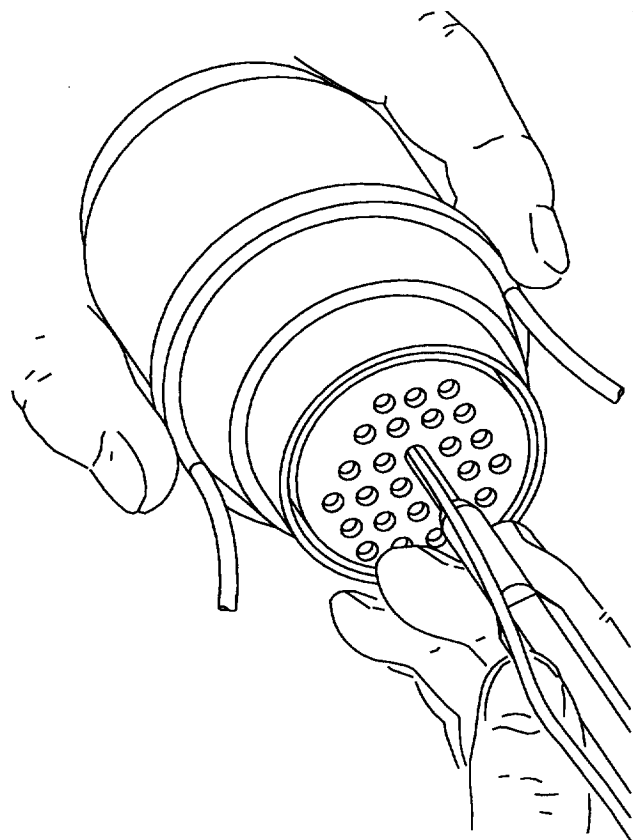
Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W177-9)01-SCAN

Figure 20. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 21.

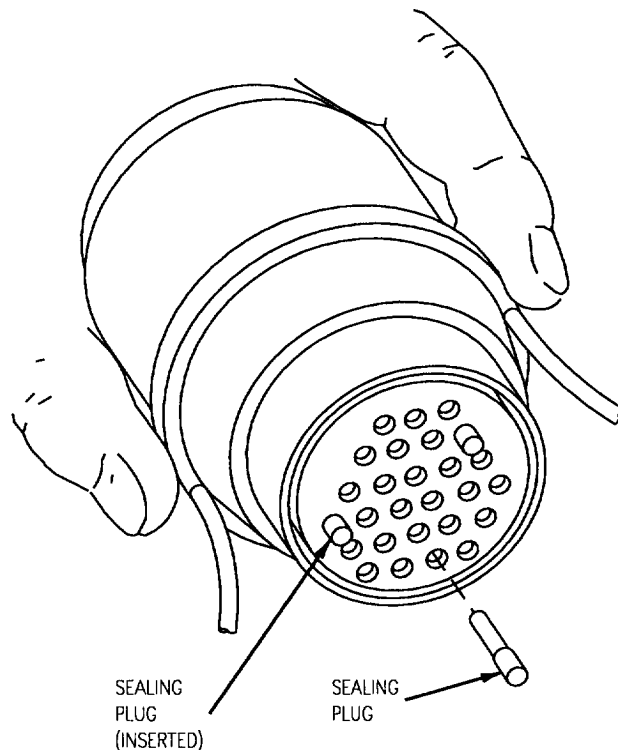


F/A-18-WRM-(W177-10)01-SCAN

Figure 21. Inserting Contacts Into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure that contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 22.



F/A-18-WRM-(W177-11)01-SCAN

Figure 22. Inserting Sealing Plug(s) Into Connector

18. WIRED CONTACT REMOVAL FROM CONNECTOR.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do backshell disassembly procedure paragraph 5.

b. Select removal tool specified in table 1 Tool Data in the correct connector figure number. The connector figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

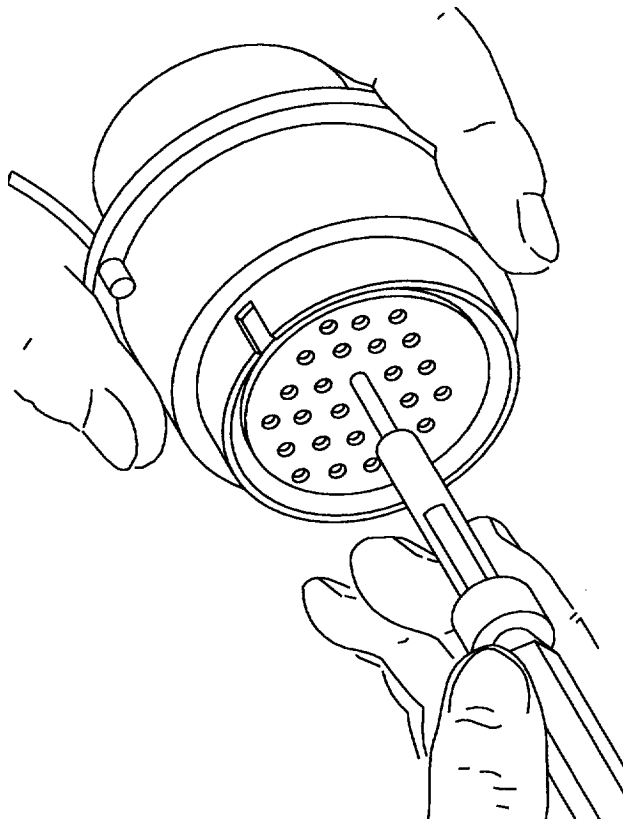
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed.

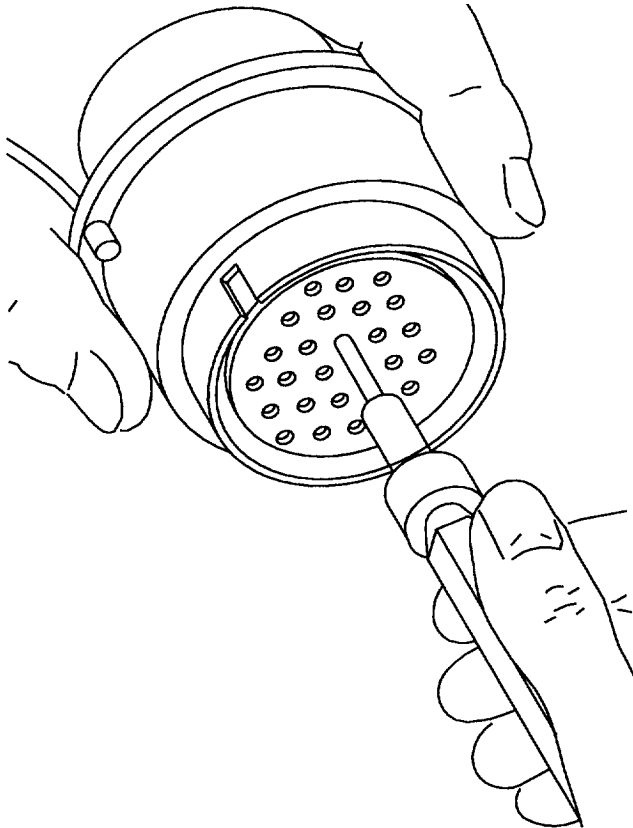
e. Holding removal tool at a right angle to front insert face, push tool straight toward rear of connector, firmly pressing tool to positive stop when it bottoms in insert cavity. See figure 23.



F/A-18-WRM-(W177-12)01-SCAN

Figure 23. Unlocking Wired Contact Mechanism

f. Maintain pressure on tool handle and slide collar of tool forward until it stops. Contact shall be partially ejected from rear of connector insert. See figure 24.

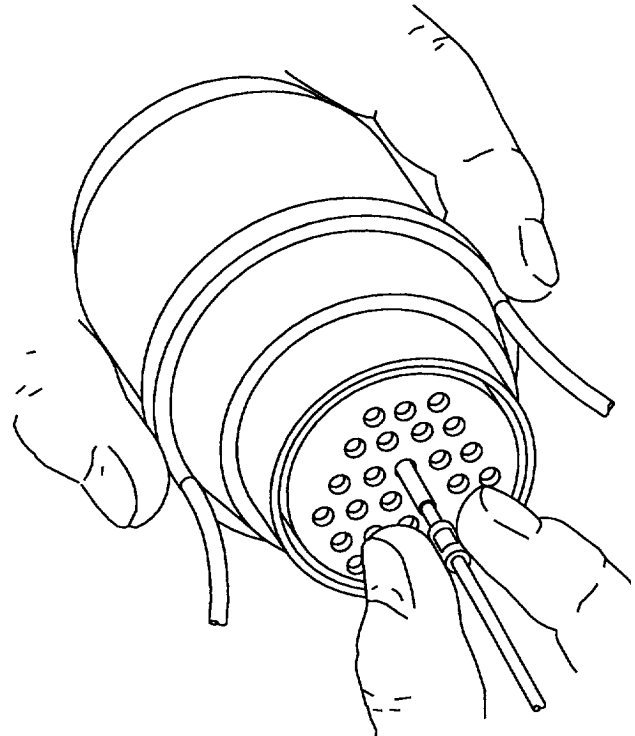


F/A-18-WRM-(W177-13)01-SCAN

Figure 24. Removing Wired Contact from Connector

g. Remove tool from contact cavity by pulling straight back to clear connector insert face.

h. Remove contact from rear of connector. See figure 25.



F/A-18-WRM-(W177-14)01-SCAN

Figure 25. Extracting Wired Contact from Connector

19. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do backshell disassembly procedure paragraph 5.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector figure number. The connector figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

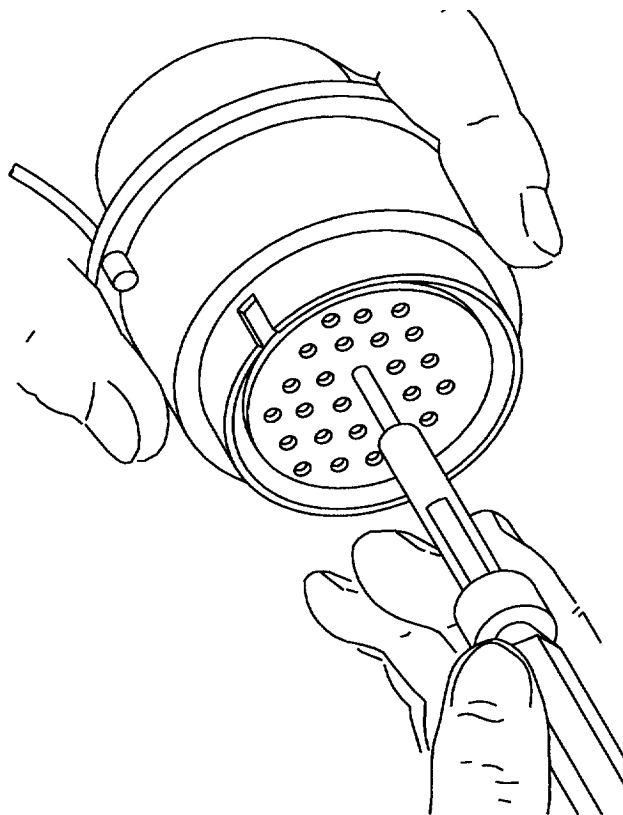
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping unwired removal tool.

d. Remove sealing plug from contact cavity of unwired contact to be removed.

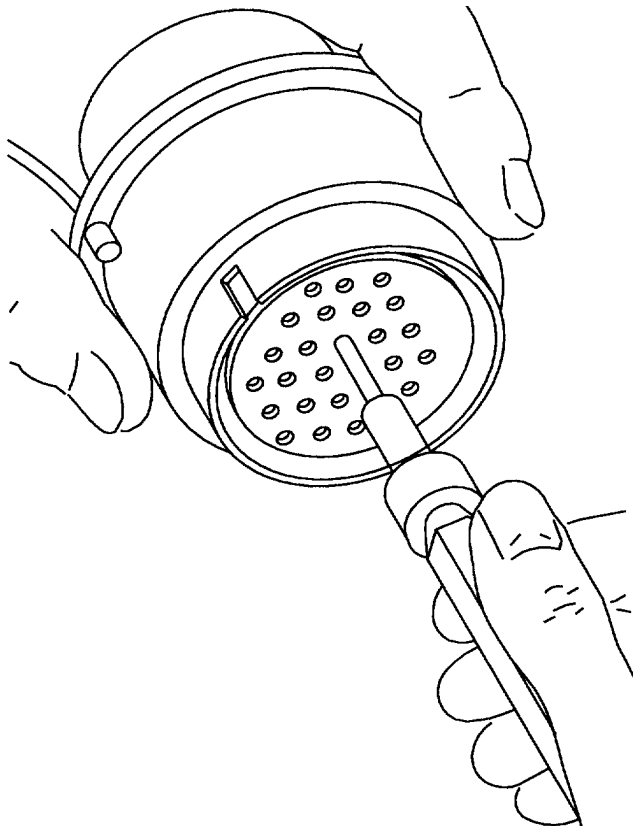
e. Align unwired removal tool at right angle to the forward face of connector. Firmly push tool straight into contact cavity until probe bottoms in insert. See figure 26.



F/A-18-WRM-(W177-12)01-SCAN

Figure 26. Unlocking Unwired Contact Mechanism

f. Maintain pressure on unwired removal tool and push plunger knob forward to eject contact partly from rear of connector insert. See figure 27.

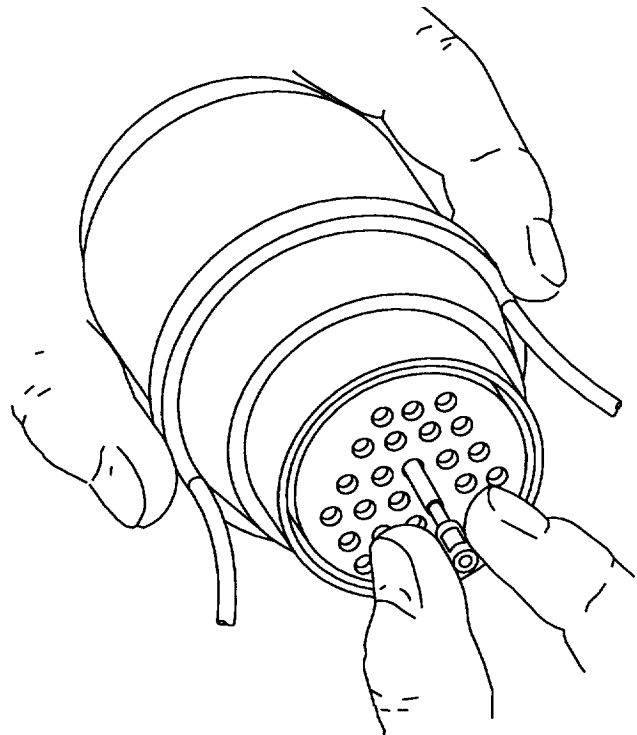


F/A-18-WRM-(W177-13)01-SCAN

Figure 27. Removing Unwired Contact from Connector

g. Remove unwired removal tool from contact cavity by pulling straight back from connector clear insert face.

h. Remove contact from rear of connector. See figure 28.



F/A-18-WRM-(W177-15)01-SCAN

Figure 28. Extracting Unwired Contact from Connector

20. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. If backshell requires disassembly, do backshell disassembly procedure paragraph 5.
- b. Remove hardware from rear of connector and slide back over cable assembly.
- c. Select removal tool specified in table 1 of connector figure number.

WARNING

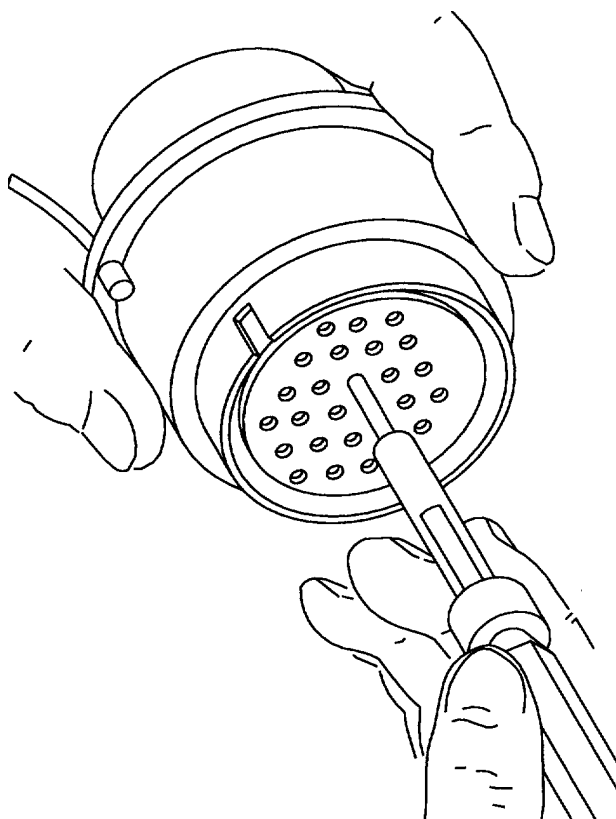
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

- d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping removal tool.

CAUTION

Broken or frayed wire strands may cut or damage grommet when being removed. Be careful when removing broken wire contacts.

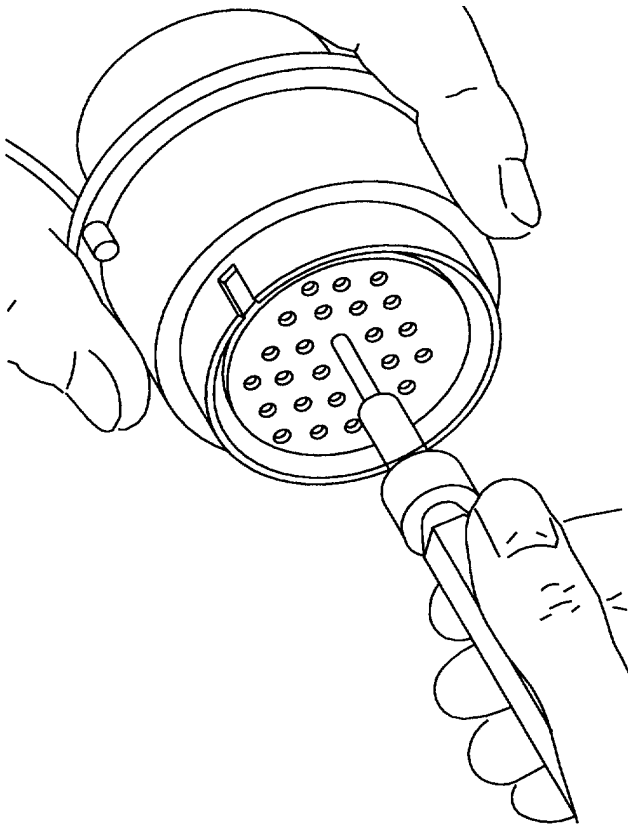
- e. Align removal tool at right angle to the forward face of connector. Slowly push removal tool straight into connector insert until probe bottoms to release contact retention mechanism. See figure 29.



F/A-18-WRM-(W177-12)01-SCAN

Figure 29. Unlocking Broken Wire Contact Mechanism

f. Maintain pressure on removal tool while gently and slowly pushing plunger knob forward. Broken wire and contact shall be partly ejected at rear of connector insert. See figure 30.

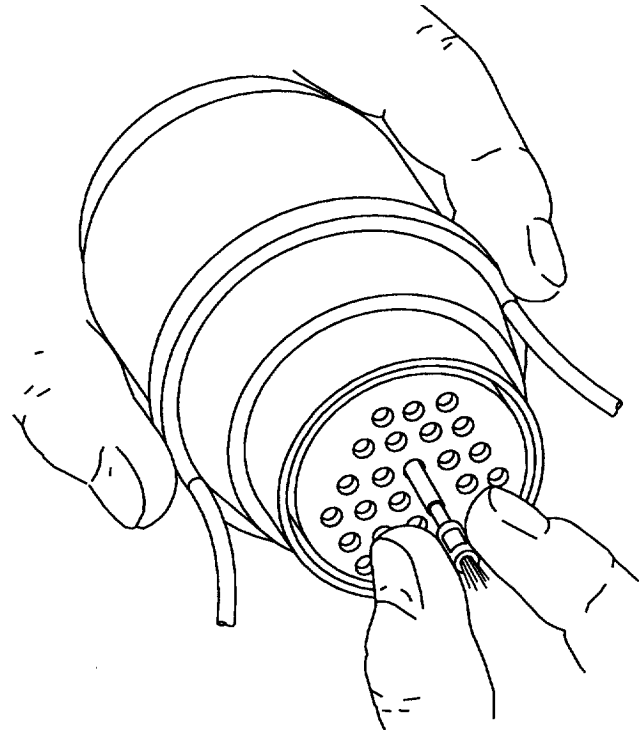


F/A-18-WRM-(W177-13)01-SCAN

Figure 30. Removing Broken Wire Contact from Connector

g. Remove tool from connector insert by pulling straight back from connector to clear insert face.

h. Remove contact and broken wire from rear of connector. See figure 31.

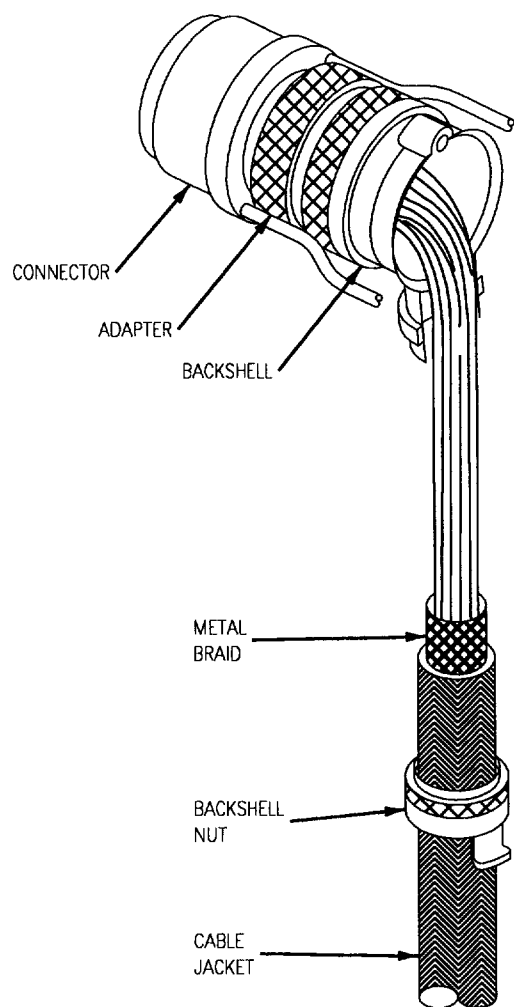


F/A-18-WRM-(W177-16)01-SCAN

Figure 31. Extracting Broken Wire Contact from Connector

21. BACKSHELL REASSEMBLY PROCEDURE.

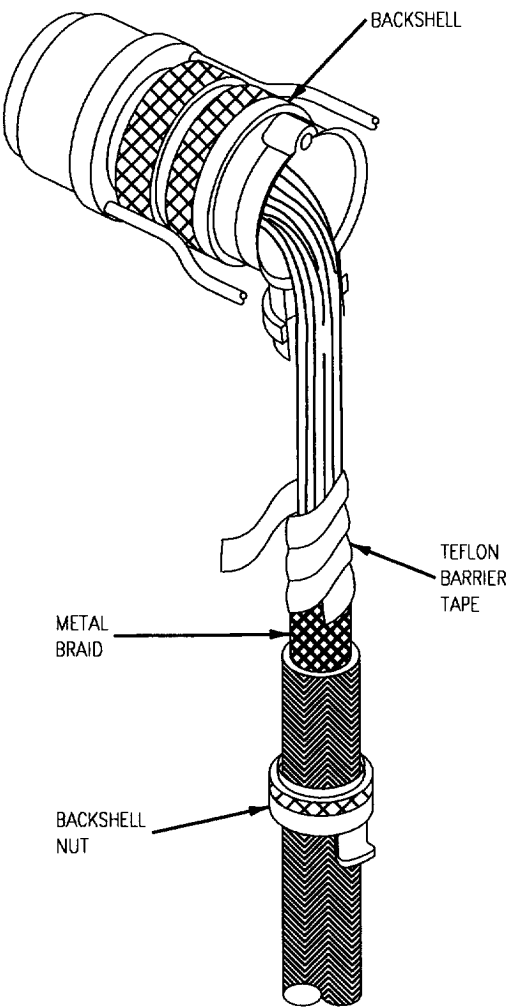
- a. Install adapter and backshell and tighten. If required use BT 264- adapter to hold connector and BT-BS-601 strap wrench. See figure 32.



F/A-18-WRM-(W177-17)01-CATI

Figure 32. Installation of Adapter and Backshell

b. Spiral wrap with teflon barrier tape MIL-I-23594, TYPE 2, 0.50 IN.WIDE under area where wire mesh tape will be applied. See figure 33.



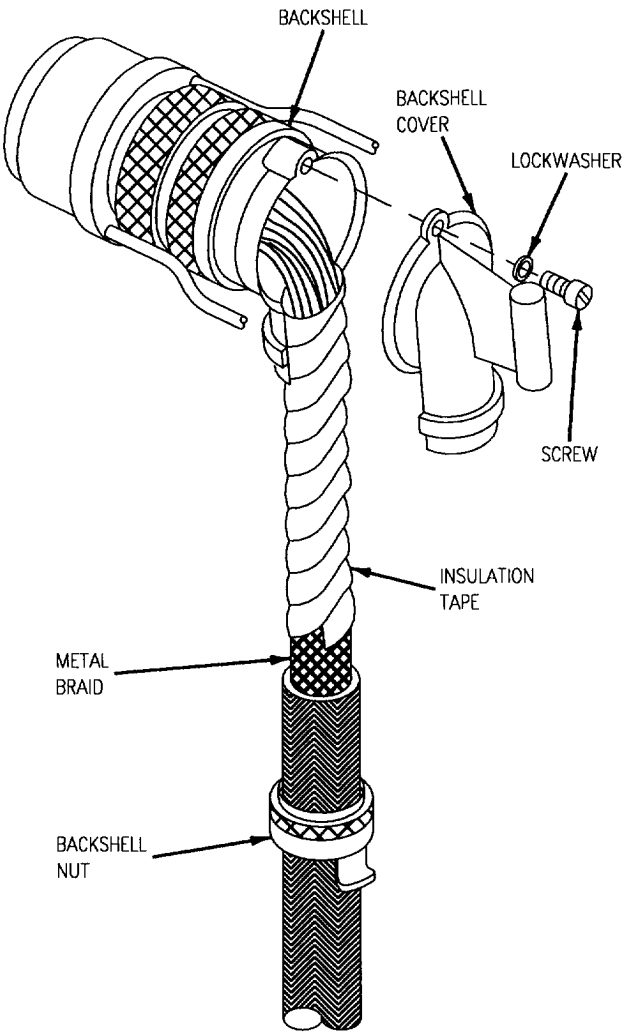
F/A-18-WRM-(W177-18)01-CAT1

Figure 33. Installation of Insulation Tape

Table 1. Teflon Barrier Tape

PART NUMBER	CAGE	WIDTH (INCH)
MIL-I-23594, TYPE 2, 0.50 IN.	81349	1/2
TAPE COMES IN ROLLS COLOR - WHITE OR BROWN TEMPERATURE RANGE; -130° TO +500°F		

c. Wrap outside diameter of cable assembly to inside diameter of backshell assembly with silicone rubber tape, see table 2, and install backshell cover with lockwasher and screw. See figure 34.



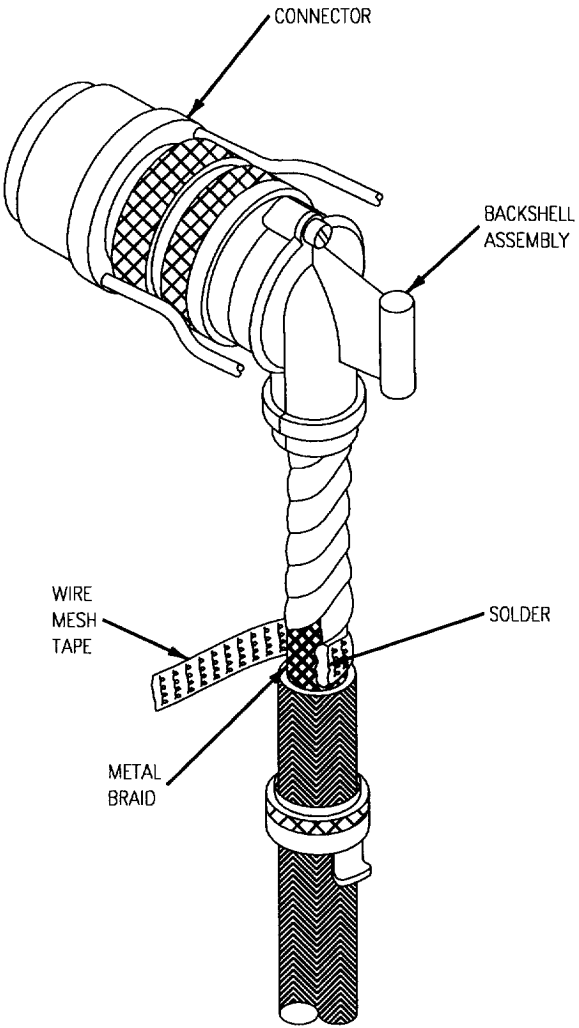
F/A-18-WRM-(W177-19)01-CAT1

Figure 34. Installation of Backshell Cover

Table 2. Reinforced Silicone Rubber Tape

PART NUMBER	CAGE	WIDTH (INCH)
S-5025	07099	1/2
S-80	07099	1/2
REINFORCED WITH FIBERGLASS SELF-BONDING TAPE COMES IN ROLLS COLOR-BLACK TEMPERATURE RANGE: -178° TO +500°F		

d. Solder wire mesh tape (table 3) to metal braid with soldering iron in repair set. See figure 35.



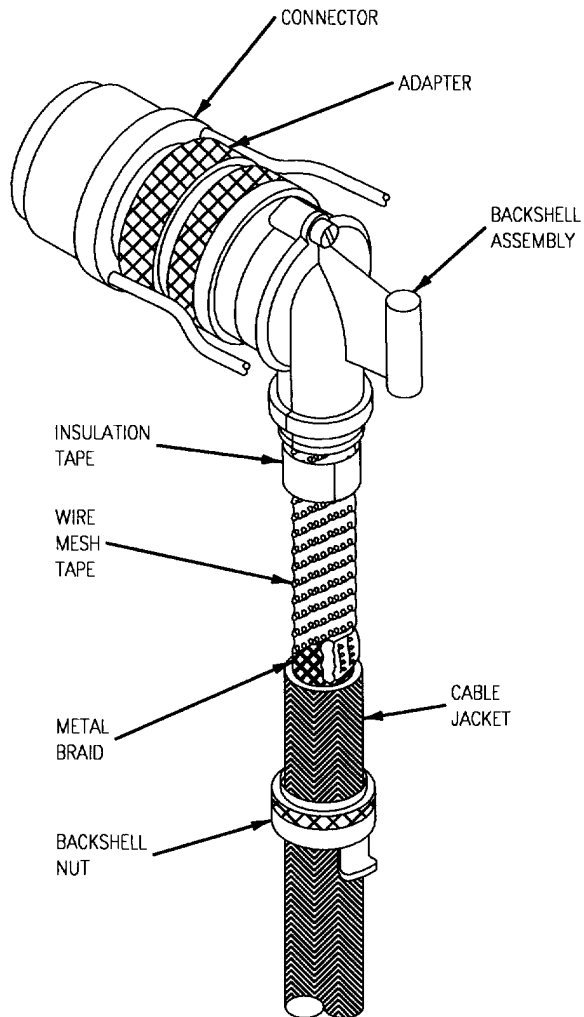
F/A-18-WRM-(W177-20)01-CAT1

Figure 35. Installing Silicone Rubber Tape and Soldering Wire Mesh Tape

Table 3. Wire Mesh Tape

PART NUMBER	CAGE	WIDTH (INCH) NOMINAL	THICKNESS (INCH) NOMINAL	WIRE DIAMETER (INCH)
SC61298	OBKF2	1.000	1/64	17/128 (35 GAGE)
TAPE COMES IN ROLLS OUTSIDE DIAMETER 3 INCHES. TEMPERATURE RANGE: -65° TO +300°F				

e. Spiral wrap wire mesh tape toward connector over tapered part of backshell assembly, and wrap back over initial wrap ending at tapered part of backshell, and secure with insulation tape MIL-I-23594, TYPE 2, 1/2IN.WIDE (Table 1). See figure 36.

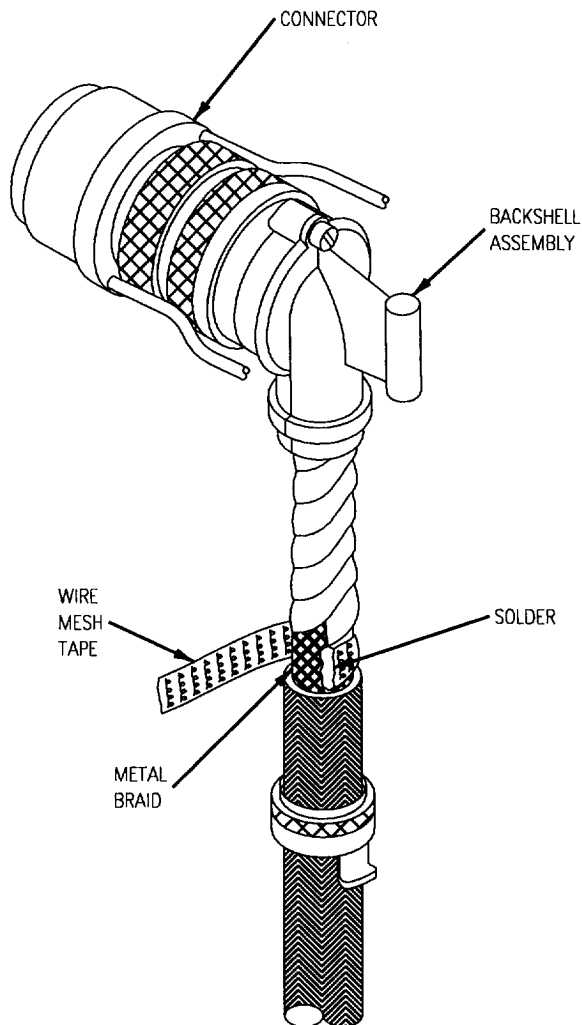


F/A-18-WRM-(W177-3)01-CATI

Figure 36. Wrapping Wire Mesh Tape

f. Trim excess length from wire mesh tape.

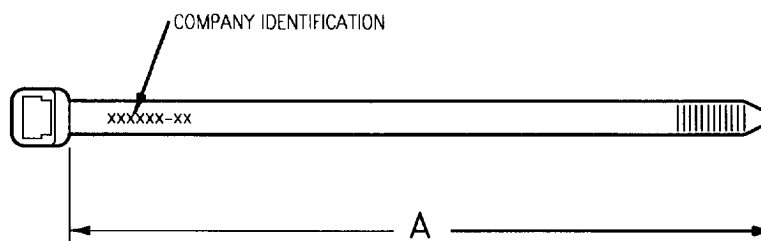
g. Secure wire mesh tape with backshell nut, and plastic tie down strap (Table 4) with MS90387-2 tie wrap tool. See figure 37.



F/A-18-WRM-(W177-20)01-CAT1

Figure 37. Installation of Backshell Nut and Tiedown Strap

Table 4. Plastic Tiedown Strap

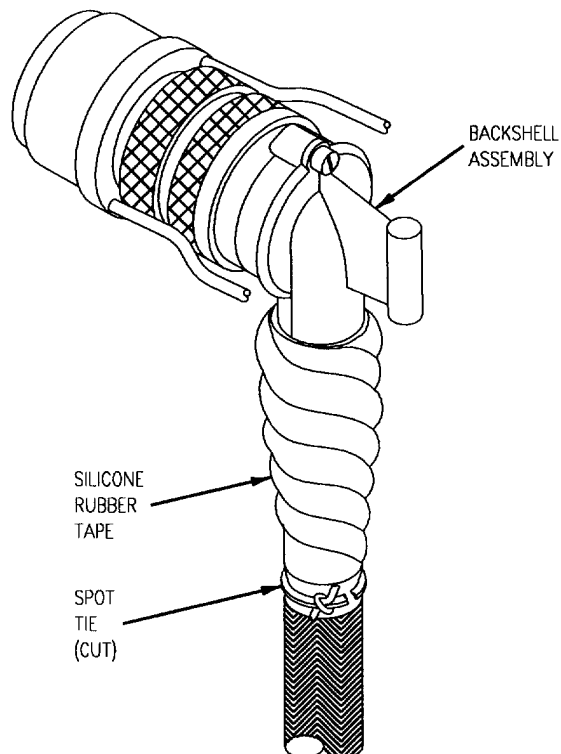


F/A-18-WRM-(510-1)01-CATI

PART NUMBER	LENGTH A (INCH)	OVERBRADIED WIRING HARNESS DIAMETER (INCHES)		MS90387-1 TOOL TENSION SETTING
		MINIMUM	MAXIMUM	
PLT-2S-CP30	6-1/32	1/16	1-3/4	6
PLT4H-C30	12.00	3/16	3-1/2	8
SST-2H-C30	7-1/2	3/16	2	8
TEMPERATURE RANGE: -65° To +300°F				

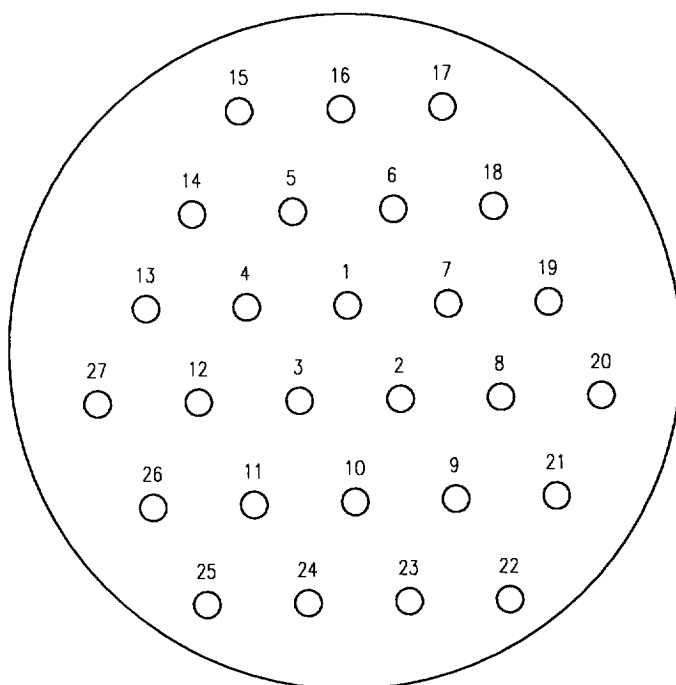
h. Wrap silicone rubber tape MIL-I-46852, TYPE 2,1.000IN.BLK one complete turn around backshell nut, and continue wrapping spirally, a single layer over wire mesh tape until 1 inch of the cable jacket is covered. See figure 38.

i. Secure silicone rubber tape with a spot tie using lacing tape.



F/A-18-WRM-(W177-1)01-CATI

Figure 38. Wrapping of Silicone Rubber Tape



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(W177-22)-01-CATI

Reference Designation to Backshell Data Index for DS07-27S-025 and DD07-27S-025 Connectors

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-U021A	G7161NF Backshell w/ G8485-274B Adapter	This WP
61P-V029A	G7161NF Backshell w/ G8485-274B Adapter	This WP
61P-W212	G7057-19-NF Backshell w/S2127- 16-34D	This WP
61P-W213	G7057-19-NF Backshell w/S2127- 16-34D	This WP

Figure 39. DS07-27S-025 and DD07-27S-025 Connector (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
1 Crimp Tool	M22520/1-01
2 Crimp Tool	M22520/2-01
1 Turret Head	M22520/1-02
2 Positioner	K392
1 Insertion Tool	M81969/17-03
2 Insertion Tool	DAK51-20
1 Removal Tool	M81969/19-07
2 Removal Tool	DRK51-20
1 Removal Tool (Unwired)	M81969/19-07
2 Removal Tool	N/A
1 Used with DD07-27S-025 Connector	
2 Used with DS07-27S-025 Connector	

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 27	3/16	1 M39029/32-259 2 800-20/30-1	MS3187-20
1 Used with DD07-27S-025 Connector			
2 Used with DS07-27S-025 Connector			

NOTE

When the DD07-27S-025 connector is superseded by the DS07-27S-025 connector the type of contact changes from M39029/32-259 to 800-20/30-1.

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****DS07-27-XXXXXXX (MIL-C-81703)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Directives

None

Reference Designation to
Figure Number Index

Reference Designation	Figure No.
72P-B001A	44

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

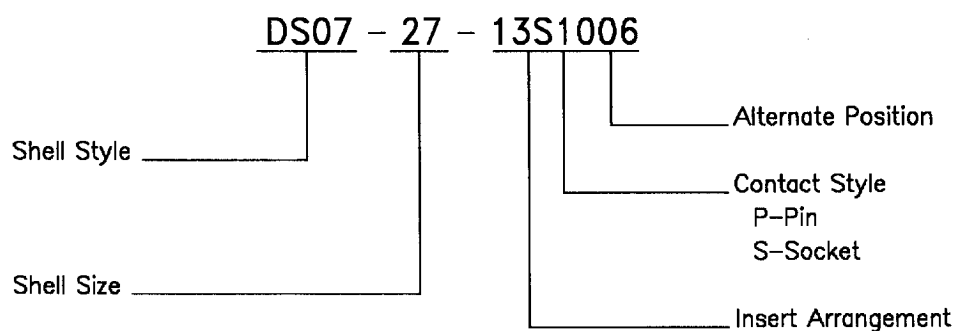


1. DESCRIPTION.

2. The DS07-27-13S1006 is a circular, environmental resistant, push-pull type connector that conforms to specification MIL-C-81703. These connectors provide electrical continuity between mated shells before contact engagement and have the contacts located to be protected from handling damage and inadvertent electrical contact.

Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-81703, connectors used on F/A-18 aircraft.



F/A-18-WRM-(500-14)01-CAT1

Figure 1. Military Part Numbering System for MIL-C-81703 Connectors**Support Equipment Required**

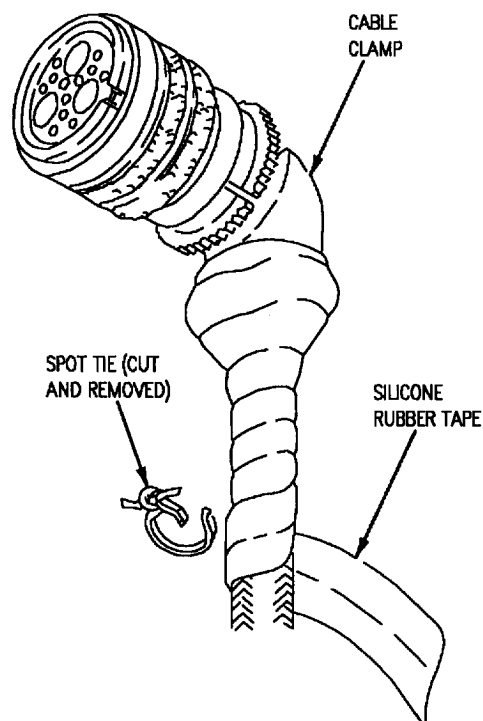
Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
MIL-I-46852, TYPE 2, 1.000IN. BLK	Silicone Rubber Tape
HB643, TYPE 2, CLASS 1, SIZE 1	Brush Acid Swab
MIL-T-43435TYPE-2 SIZE-3FINISH-C	Tape, Lacing
MIL-I-735 GRADE B	Isopropyl Alcohol

5. BACKSHELL DISASSEMBLY PROCEDURE.

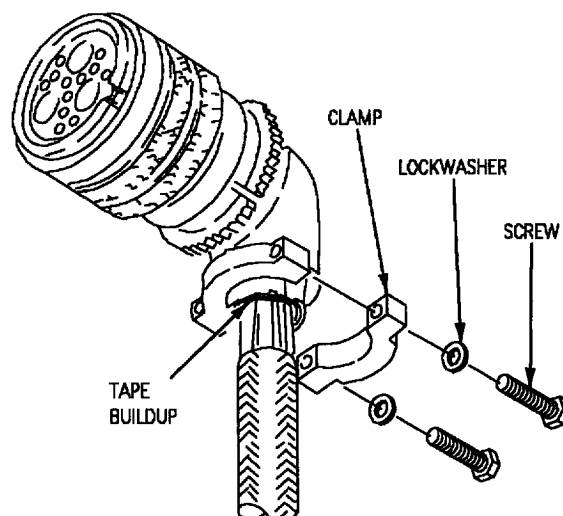
a. Remove spot tie and silicone rubber tape. See figure 2.



F/A-18-WRM-(428-1)01-CATI

Figure 2. Removing Tape Boot

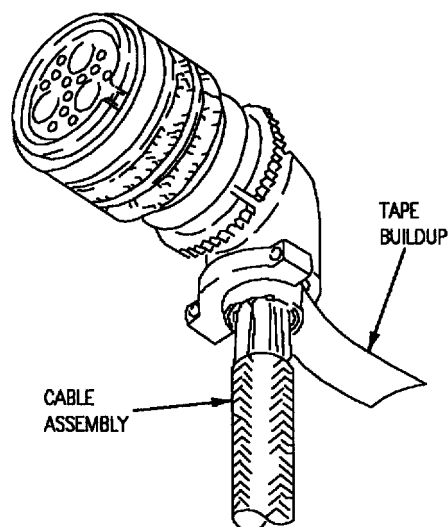
b. Remove screws, lockwashers and clamp from backshell. See figure 3.



F/A-18-WRM-(428-2)02-CATI

Figure 3. Removing Cable Clamp

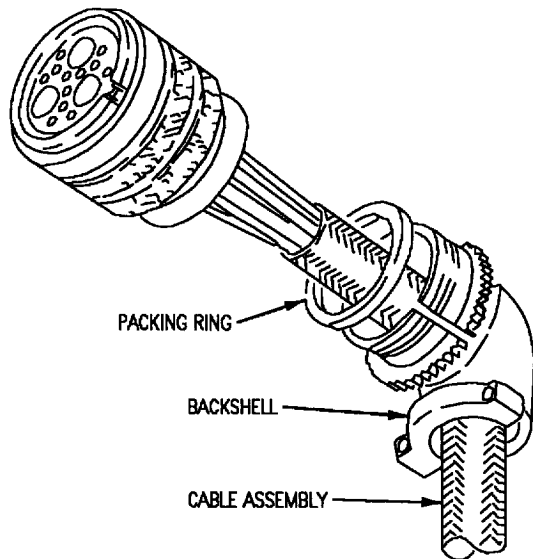
c. Remove tape buildup from cable assembly. See figure 4.



F/A-18-WRM-(428-3)02-CATI

Figure 4. Removing Tape from Cable Assembly

d. Remove backshell and packing ring by sliding back on cable assembly. See figure 5.



F/A-18-WRM-(428-4)02-CAT1

Figure 5. Removal of Backshell

6. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

7. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

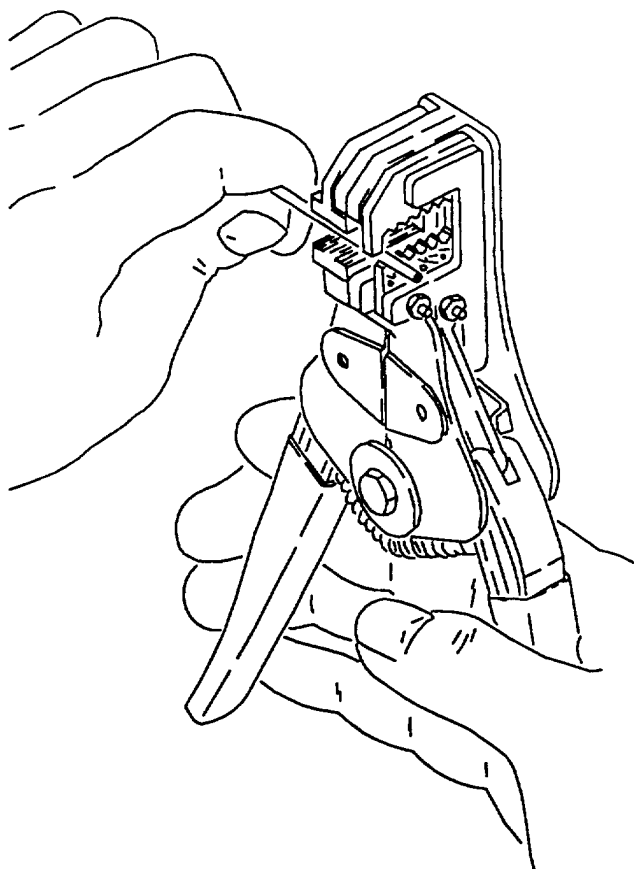
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

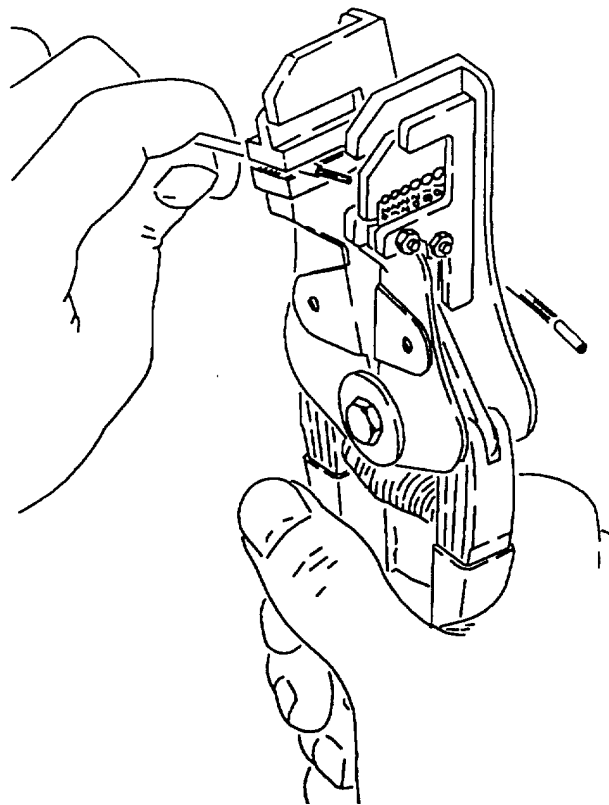
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 6.



F/A-18-WRM-(401-1)01-SCAN

Figure 6. Placing Wire in Slot of Stripping Tool

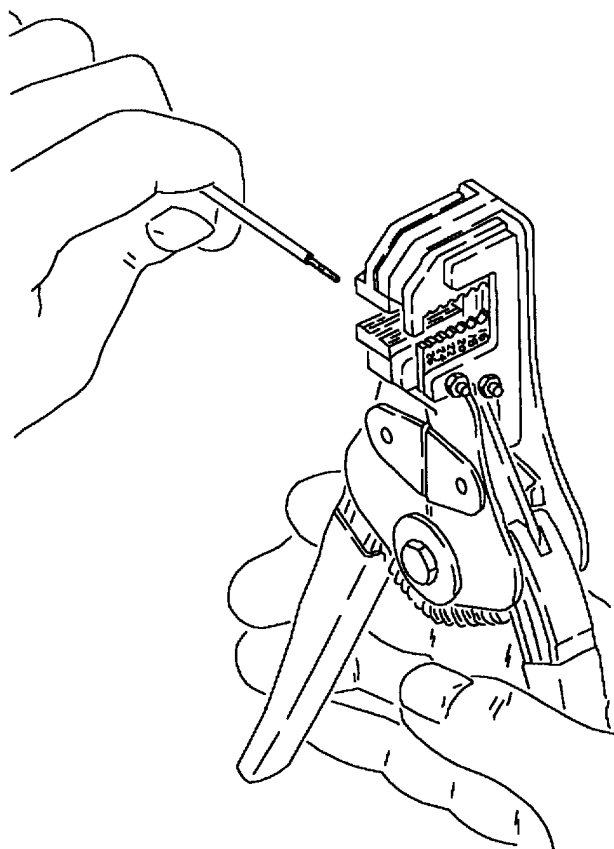
e. Close handles together as far as they will go. See figure 7.



F/A-18-WRM-(402-1)01-SCAN

Figure 7. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 8.

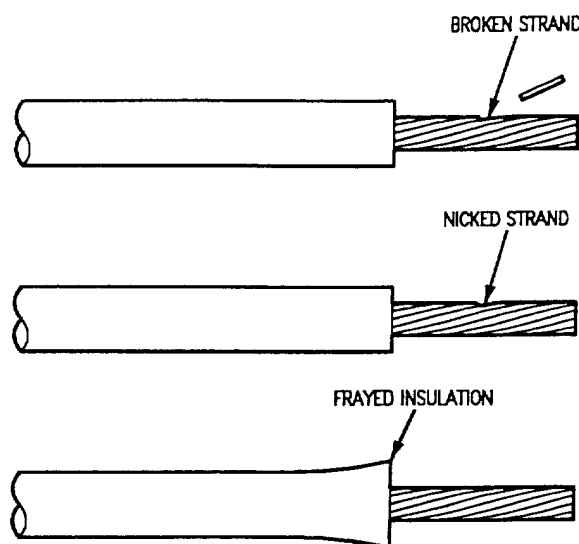


F/A-18-WRM-(403-1)01-SCAN

Figure 8. Stripping Compound

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 9 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 9. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

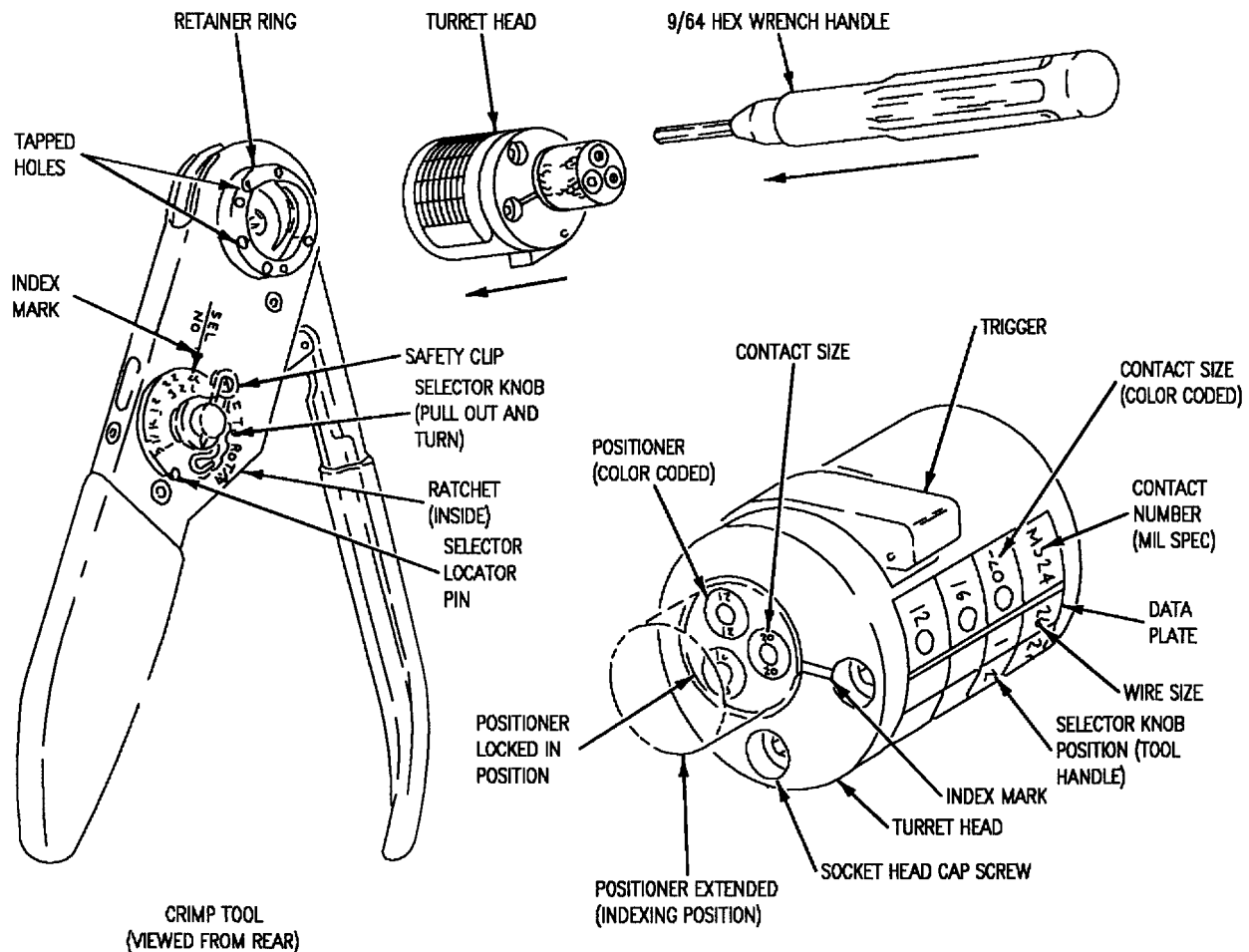
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 10.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 10. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M2252013-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

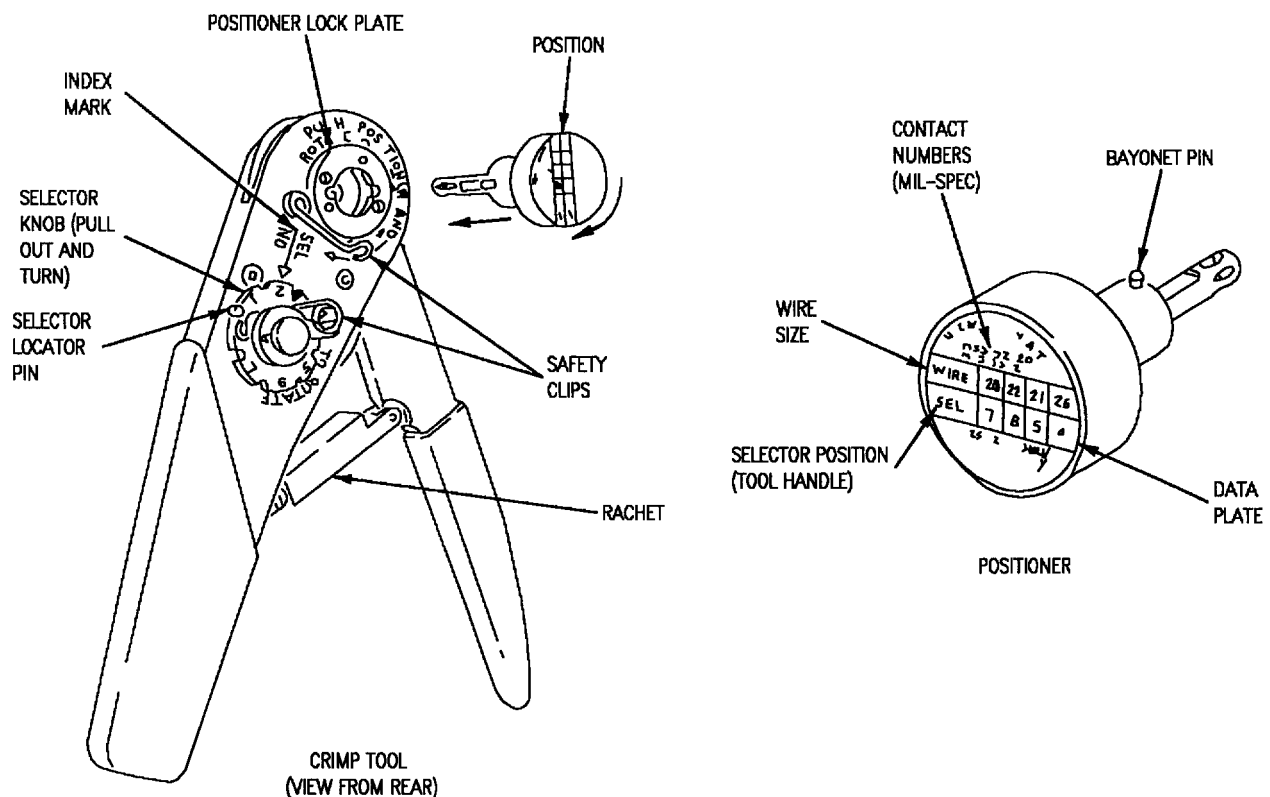
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 11.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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Figure 11. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

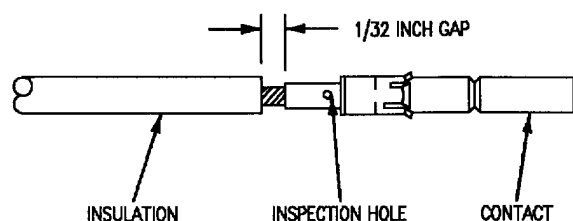
c. Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- Select correct contact specified in table 2 for affected connector part number.
- Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- Visually inspect gap dimension between contact and insulation as shown in figure 12.



F/A-18-WRM-(W178-1)01-CATI

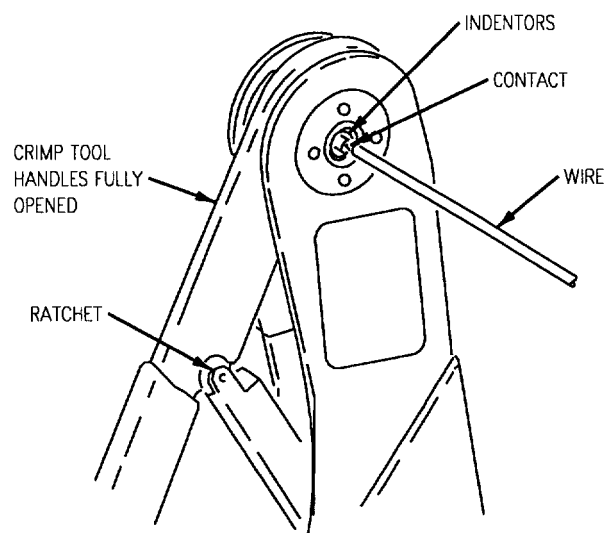
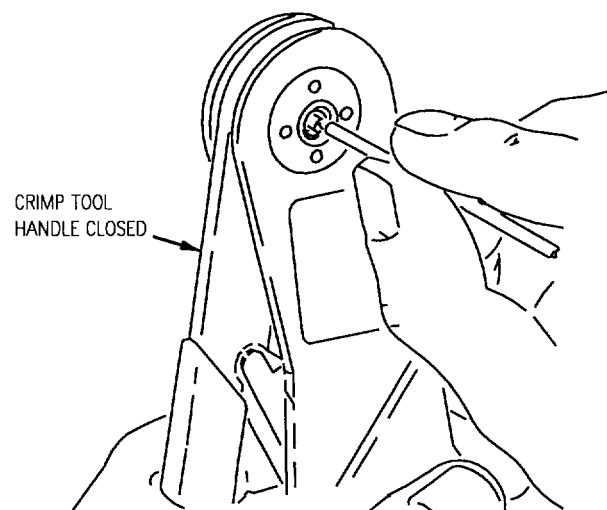
Figure 12. Strip Gap Check

- Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 13, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 13, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)**DETAIL A****DETAIL B**

F/A-18-WRM-(407-1)01-CATI

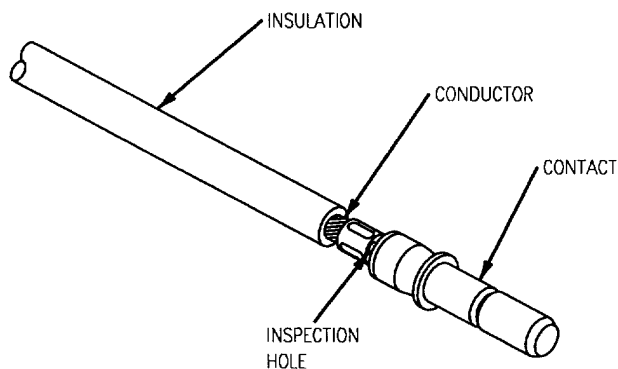
Figure 13. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole figure 14.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(W178-2)01-CATI

Figure 14. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, refer to paragraph 5.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

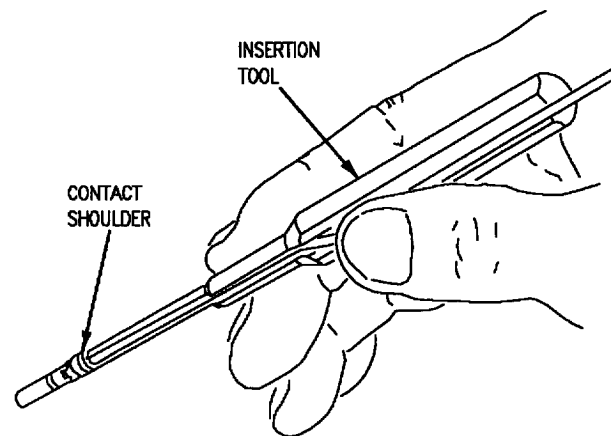
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 15.



Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(721-7)02-SCAN

Figure 15. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 16.

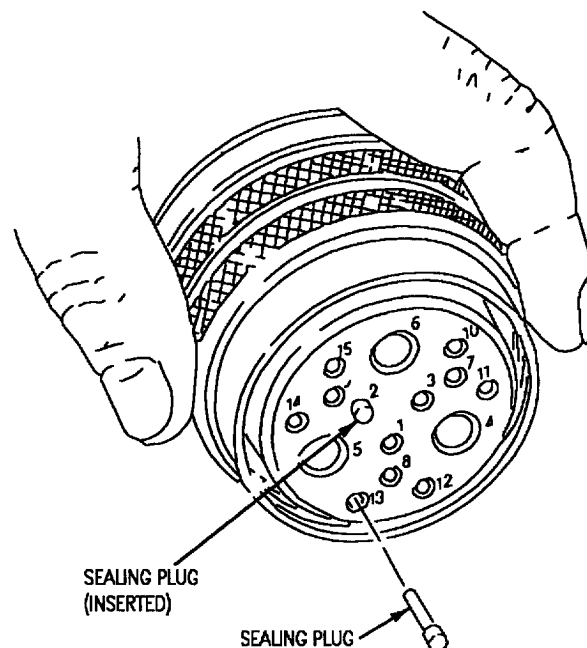


F/A-18-WRM-(442-1)02-CATI

Figure 16. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 17.



F/A-18-WRM-(442-2)02-CATI

Figure 17. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, refer to paragraph 5.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



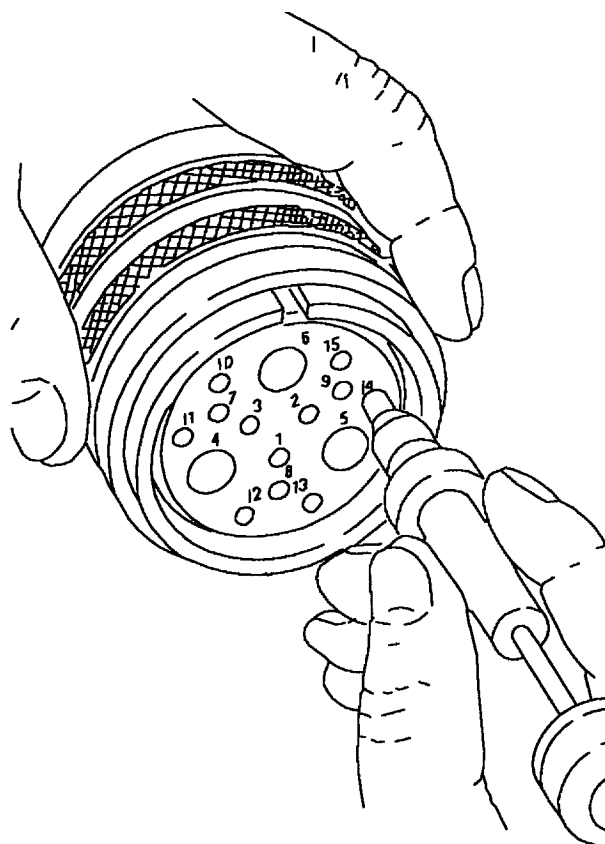
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

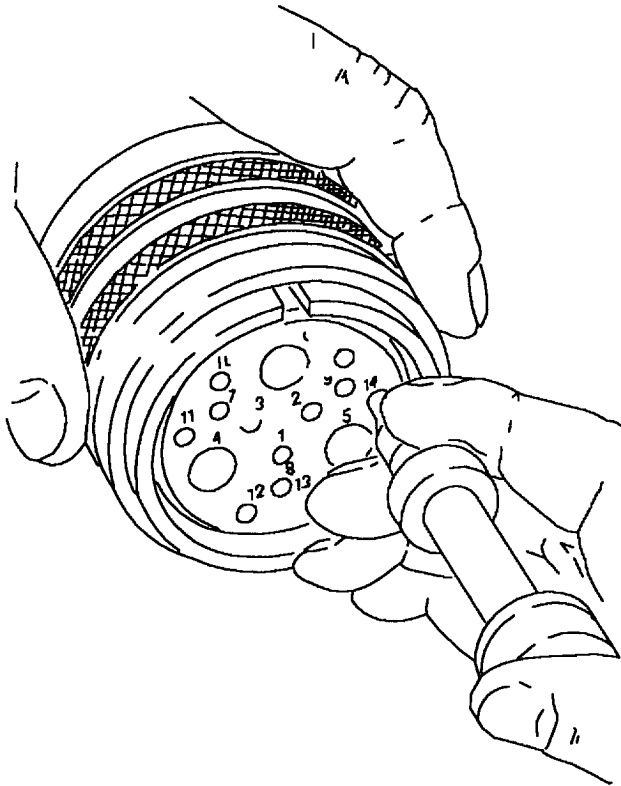
d. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed. Holding removal tool at a right angle to front insert face, push tool straight toward rear of connector, firmly pressing tool to positive stop when it bottoms in insert cavity. See figure 18.



F/A-18-WRM-(442-13)02-CAT1

Figure 18. Unlocking Wired Contact Mechanism

e. Maintain pressure on tool handle and push plunger knob forward until it stops. Contact shall be partly ejected from rear of connector insert. See figure 19.

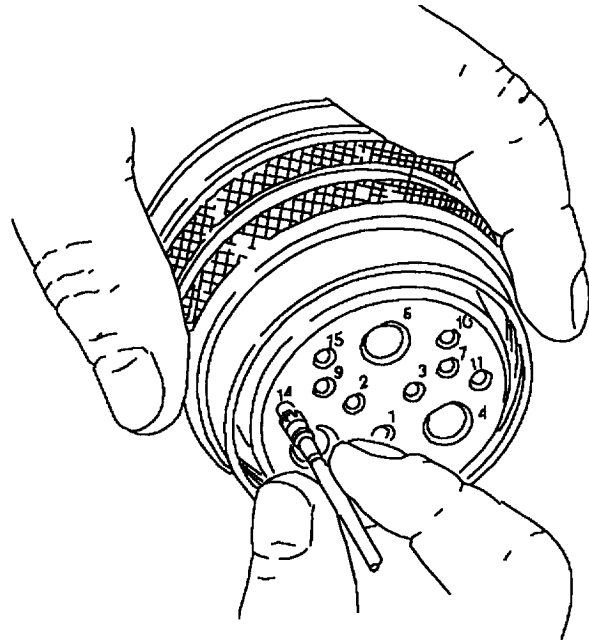


F/A-18-WRM-(442-5)02-CATI

Figure 19. Remodeling Wired Contact from Connector

f. Remove tool contact cavity by pulling straight back to clear connector insert face.

g. Remove contact from rear of connector. See figure 20.



F/A-18-WRM-(442-3)02-CATI

Figure 20. Extracting Wired Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly refer to paragraph 5.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in

the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

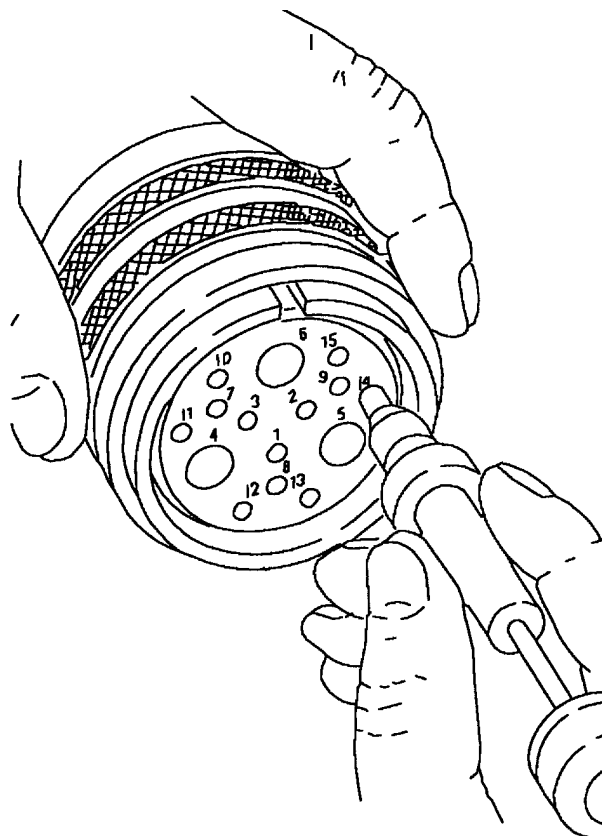
c. Remove sealing plug from contact cavity or unwired contact to be removed.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

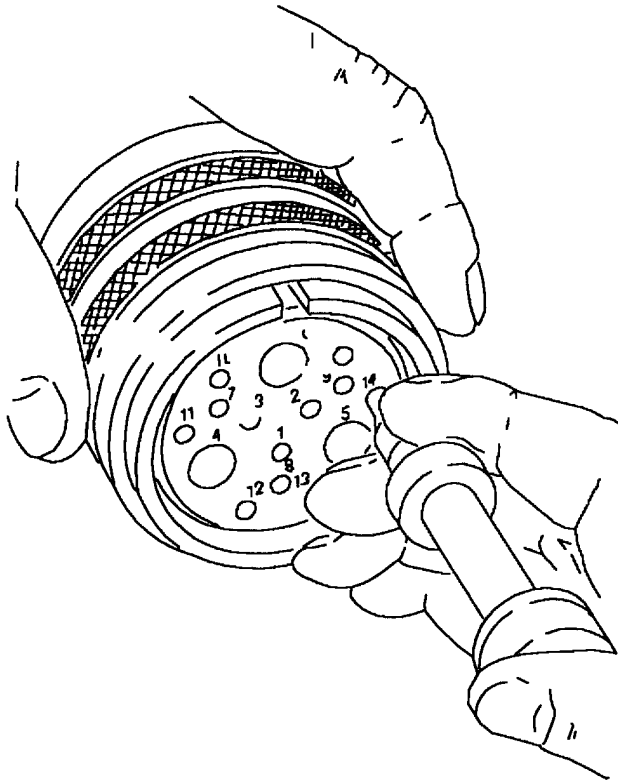
e. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed. Holding removal tool at a right angle to front of insert face, push tool straight toward rear connector, firmly pressing tool to positive stop when it bottoms in insert cavity. See figure 21.



F/A-18-WRM-(442-13)02-CATI

Figure 21. Unlocking Unwired Contact Mechanism

f. Maintain pressure on tool handle and push plunger knob forward to eject contact partly from rear of connector insert. See figure 22.

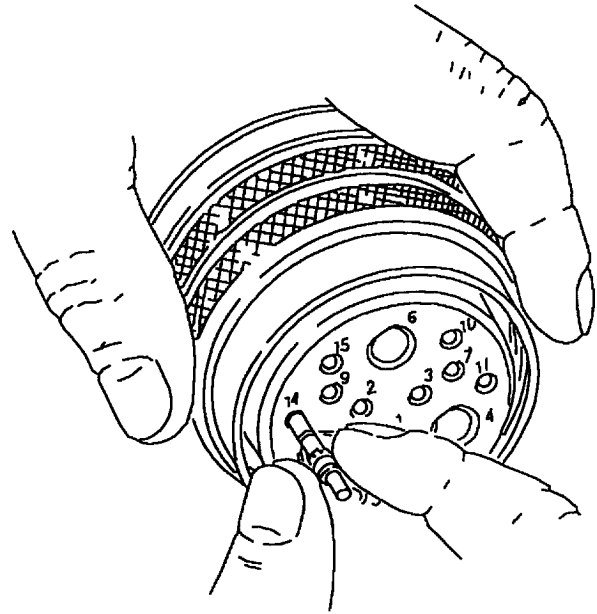


F/A-18-WRM-(442-5)02-CATI

Figure 22. Removing Unwired Contact from Connector

g. Remove tool from contact cavity by pulling straight back from connector to clear insert face.

h. Remove contact from rear of connector. See figure 23.



F/A-18-WRM-(442-4)02-CATI

Figure 23. Extracting Unwired Contact from Connector

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. If backshell requires disassembly, refer to paragraph 5.
- b. Remove hardware from rear of connector and slide back over wire bundle.
- c. Select removal tool specified in table 1 for affected connector part number.

WARNING

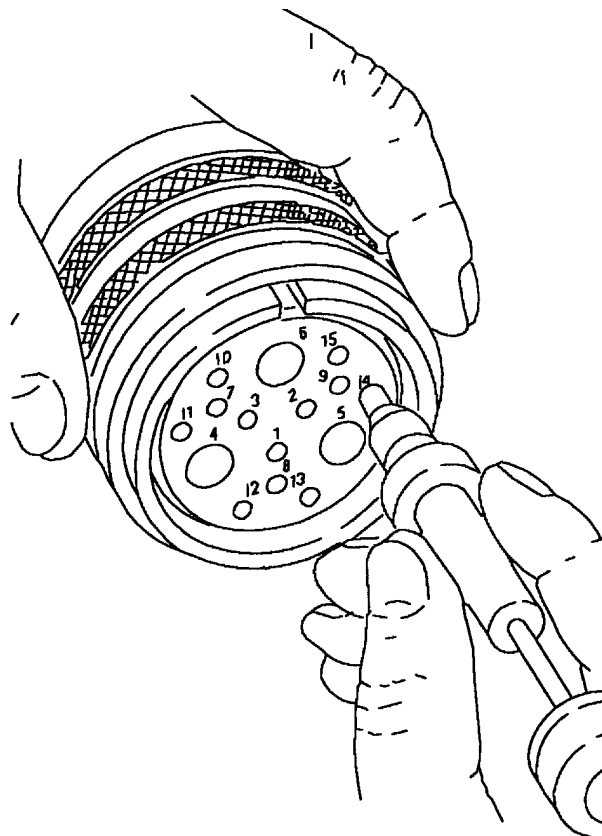
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

- d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

CAUTION

Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

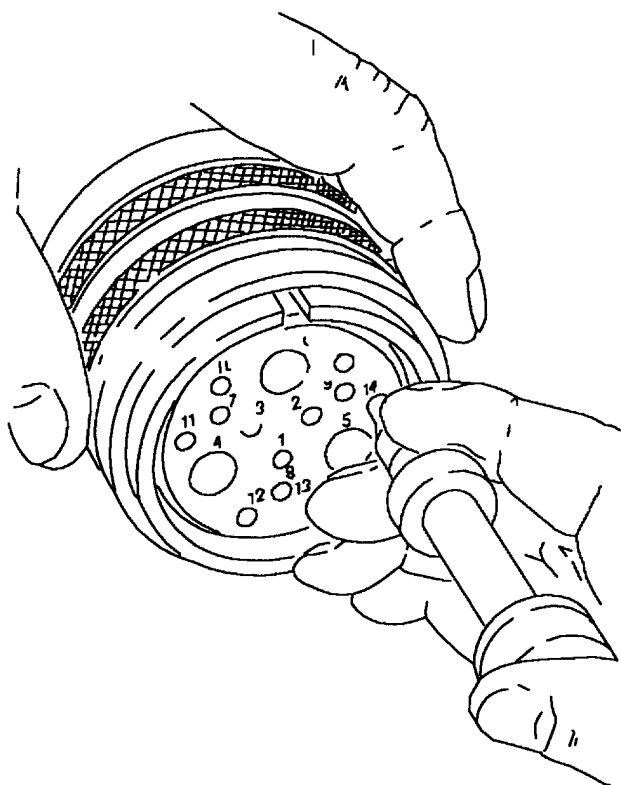
- e. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed. Slowly push unwired removal tool straight into connector insert until probe bottoms to release contact retention mechanism. See figure 24.



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Figure 24. Unlocking Broken Wire Contact Mechanism

f. Maintain pressure on tool handle while gently and slowly pushing plunger knob forward. Broken wire and contact shall be partly ejected at rear of connector insert. See figure 25.

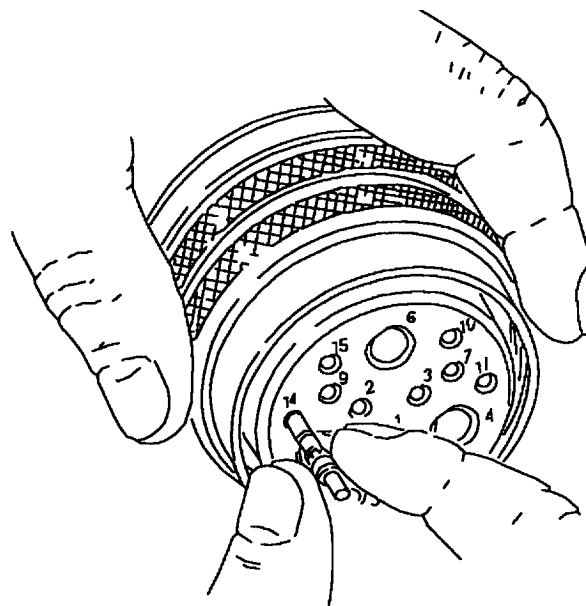


F/A-18-WRM-(442-5)02-CAT1

Figure 25. Removing Broken Wire Contact from Connector

g. Remove tool from connector insert by pulling straight back from connector to clear insert face.

h. Remove contact and broken wire from rear connector. See figure 26.



F/A-18-WRM-(442-6)02-CAT1

Figure 26. Extracting Broken Wire Contact from Connector

20. COAX REPAIR PROCEDURES.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly refer to paragraph 5.

21. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

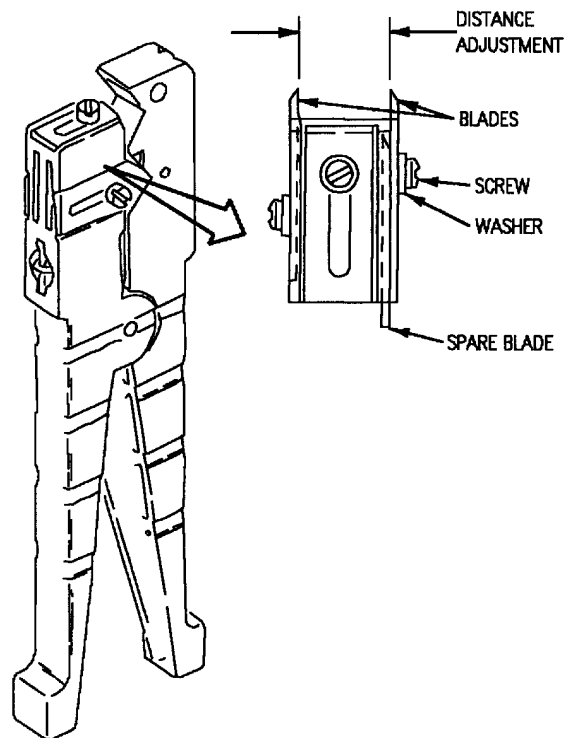
22. DISTANCE ADJUSTMENT.

- a. Measure distance between blades. See figure 27.
- b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades $\frac{3}{64}$ -inch.

- c. Install screws and tighten handtight.
- d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

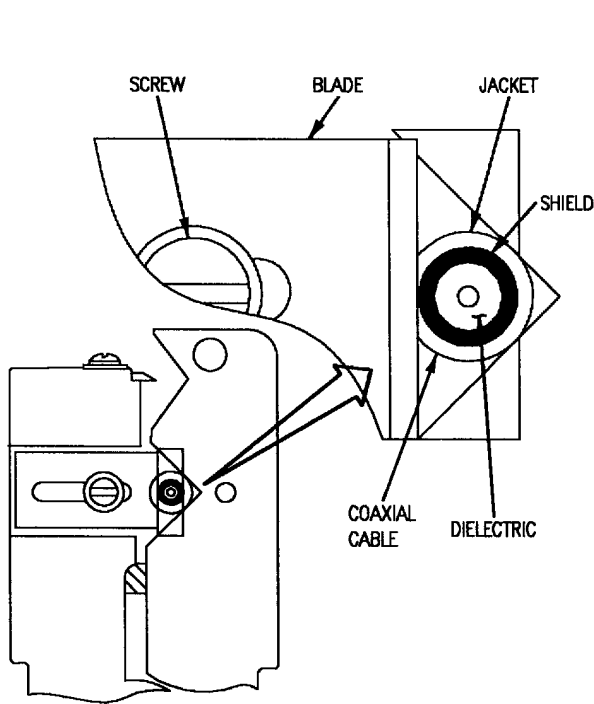
Figure 27. Distance Adjustment

23. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare coax before stripping coax to be used.

- a. Position coaxial cable in stripper until the end butts against the blade. See figure 28.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



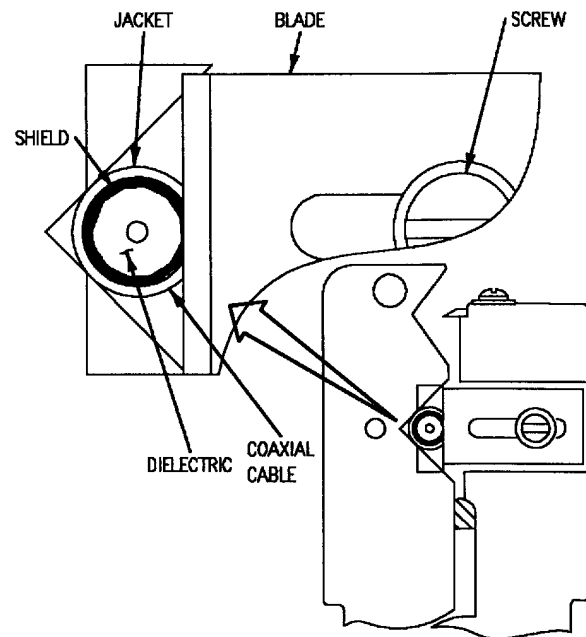
F/A-18-WRM-(409-3)01-CATI

Figure 28. Jacket Cut Adjustment

- c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 29.

- d. Adjust blade so it cuts through shield without damaging dielectric.

- e. If required, repeat steps 23a through 23d until blades cut through jacket and shield without damaging shield and dielectric.



F/A-18-WRM-(409-4)01-CATI

Figure 29. Shield Cut Adjustment

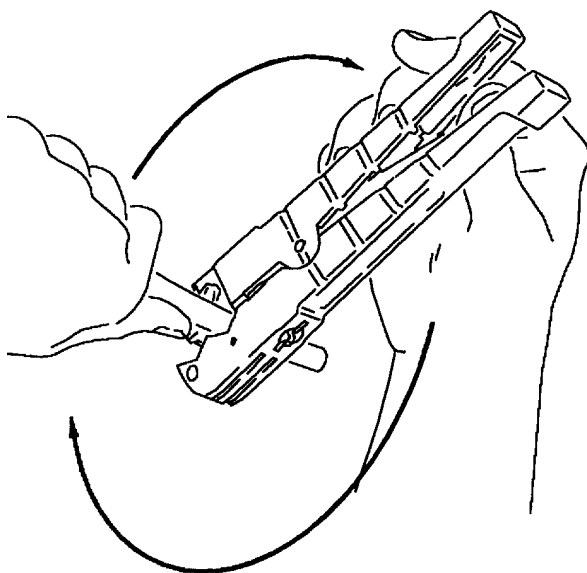
24. USE.

- Position stripper on cable so that blades face down. See figure 30.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

- Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.
- Remove stripper from cable.
- Remove stripped jacket and shield.



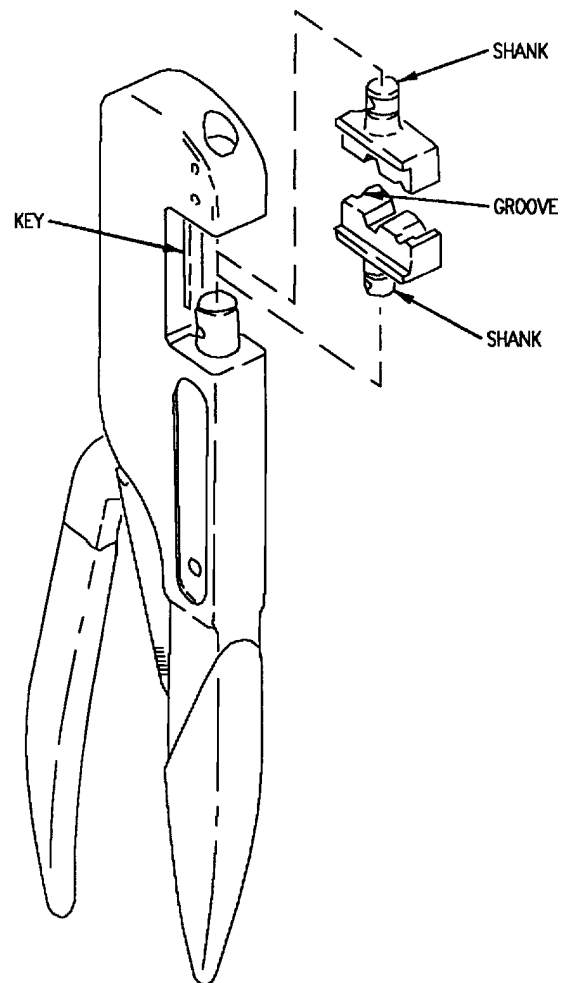
F/A-18-WRM-(409-1)01-SCAN

Figure 30. Operation

25. CRIMP TOOL M22520/5-01 ASSEMBLY AND USE.

26. DIE INSTALLATION.

- Align groove in die with key in crimping tool and push shank of die into hole.
- Close handle to make sure dies are correctly seated and locked in place. See figure 31.

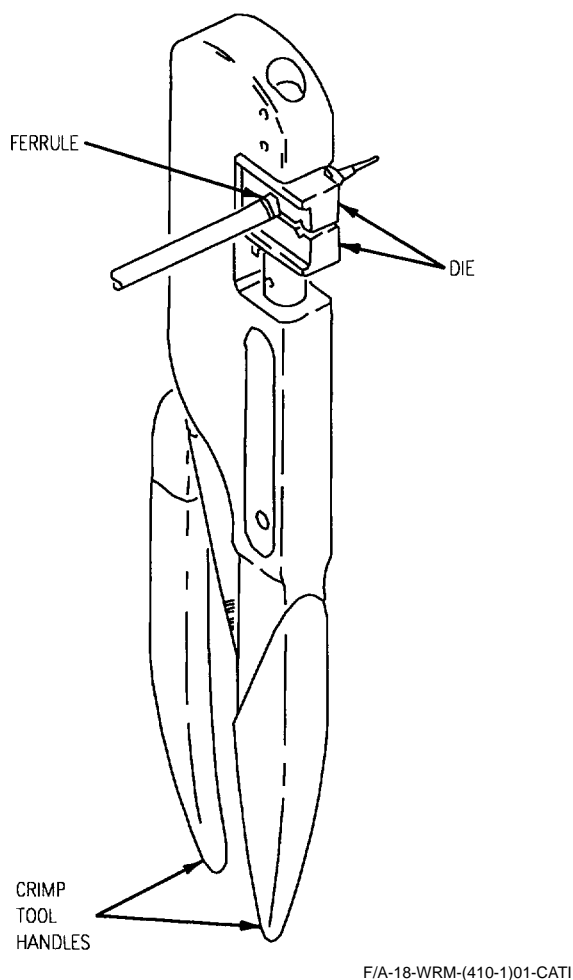


F/A-18-WRM-(410-2)01-SCAN

Figure 31. Die Installation

27. CRIMP PROCEDURE.

a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 32.

**Figure 32. Crimp Positioning**

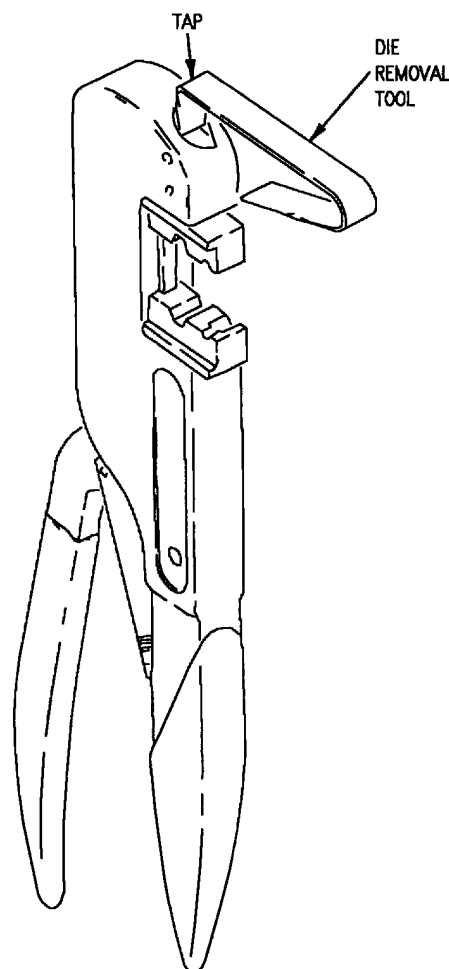
b. Squeeze tool handles until ratchet releases.

c. Open handles and remove ferrule assembly and inspect crimp.

28. DIE REMOVAL.**NOTE**

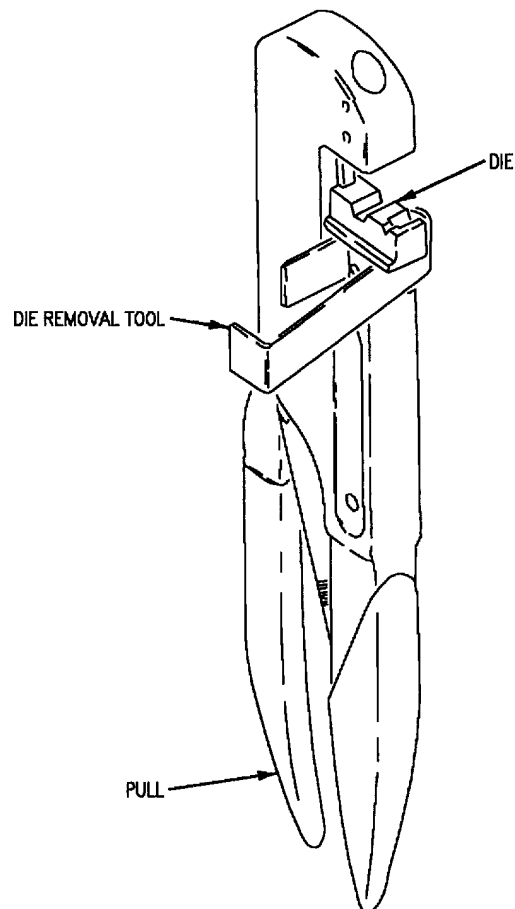
Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 33.

**Figure 33. Upper Die Removal**

b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 34.



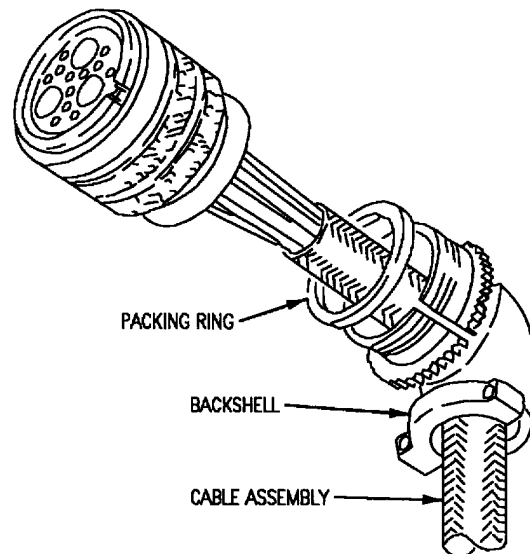
F/A-18-WRM-(410-4)01-SCAN

Figure 34. Lower Die Removal

d. Pull handle open with snap action. The die will be released from the lock spring and can be removed by hand.

29. BACKSHELL REASSEMBLY PROCEDURE.

a. Slide packing ring and backshell into connector and tighten. See figure 35.



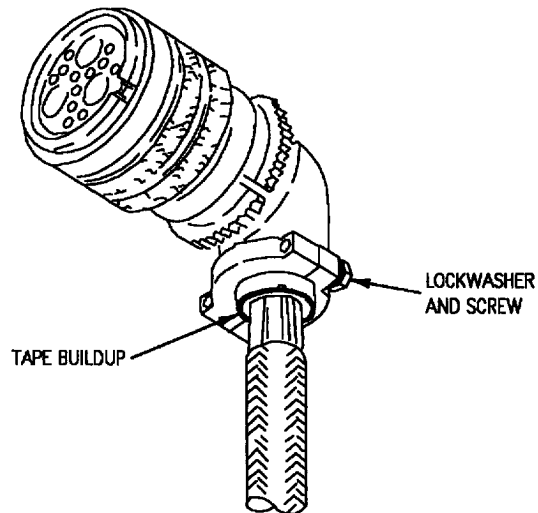
F/A-18-WRM-(428-4)02-CATI

Figure 35. Backshell Installation

NOTE

After tightening, a minimum of two threads on clamping screws must be exposed.

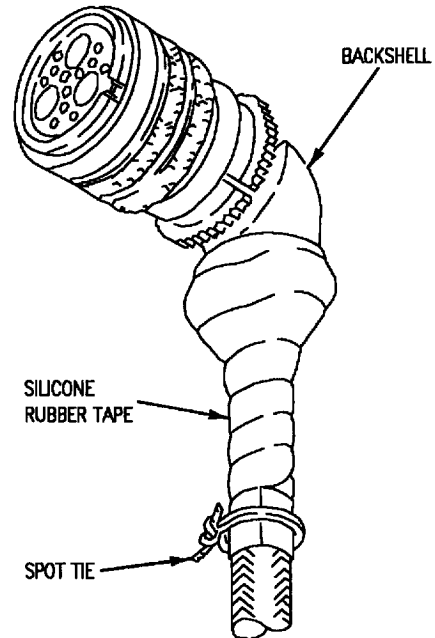
b. Apply buildup of silicone rubber tape to wire harness and tighten cable clamp screws. See figure 36.



F/A-18-WRM-(428-5)02-CATI

Figure 36. Cable Clamp Installation

c. Spiral wrap exposed wires with silicone rubber tape and spot tie with lacing tape. See figure 37.



F/A-18-WRM-(428-6)02-CATI

Figure 37. Silicone Tape Boot Installation

30. INSERTION OF COAXIAL CONTACT INTO CONNECTOR.

a. If backshell requires disassembly, refer to paragraph 5.

b. Select insertion tool specified in table 3. Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

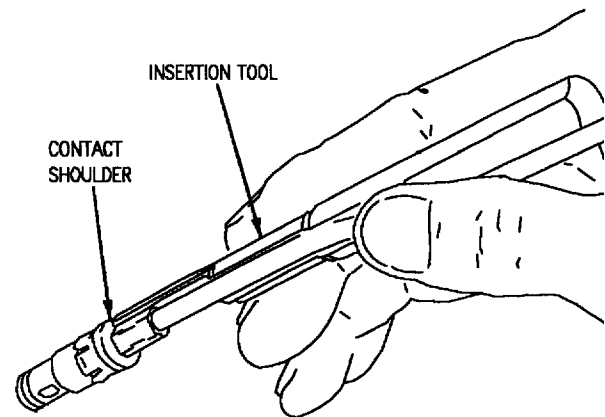
Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 38.



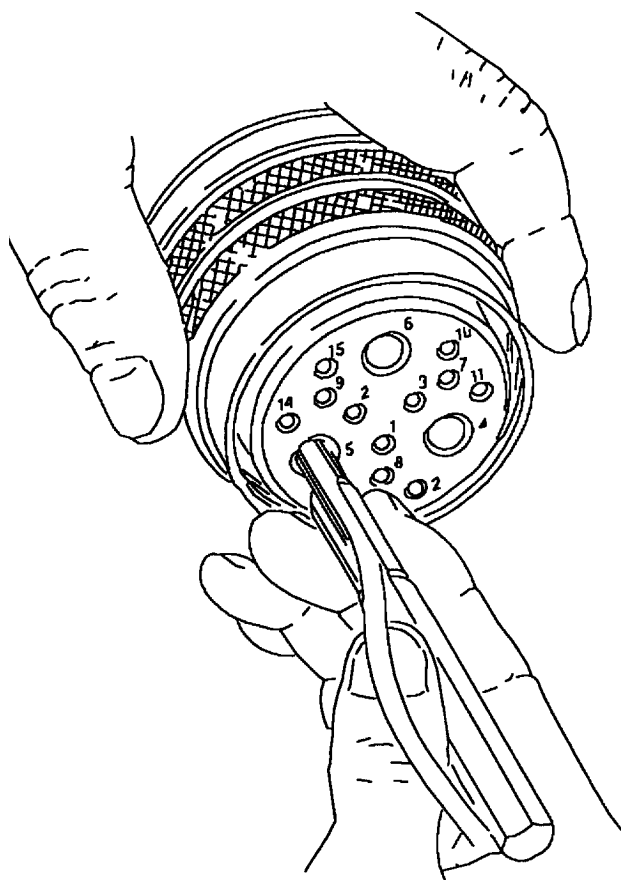
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(442-7)02-CAT1

Figure 38. Inserting Coax Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 39.

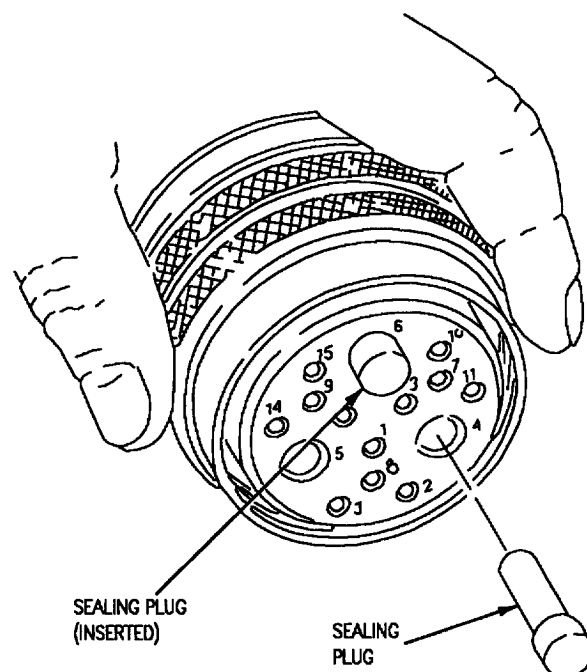


F/A-18-WRM-(442-8)02-CATI

Figure 39. Inserting Coaxial Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with sealing plugs, small diameter first, until it bottoms against contact cavity. See figure 40.



F/A-18-WRM-(442-9)02-CATI

Figure 40. Inserting Coaxial Sealing Plug(s) into Connector

31. COAXIAL CONTACT REMOVAL FROM CONNECTOR.

a. If backshell requires disassembly, refer to paragraph 5.

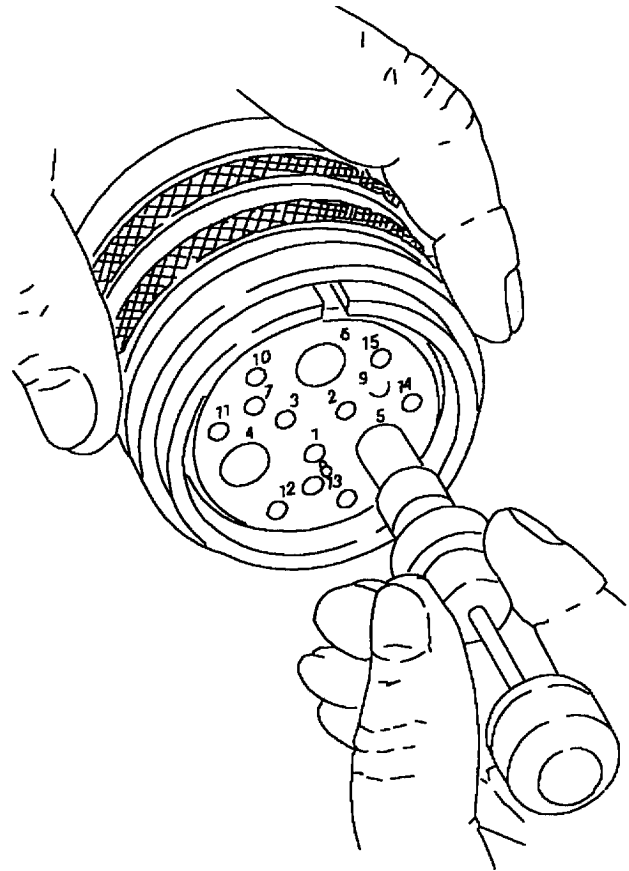
b. Select removal tool specified in table 3. Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

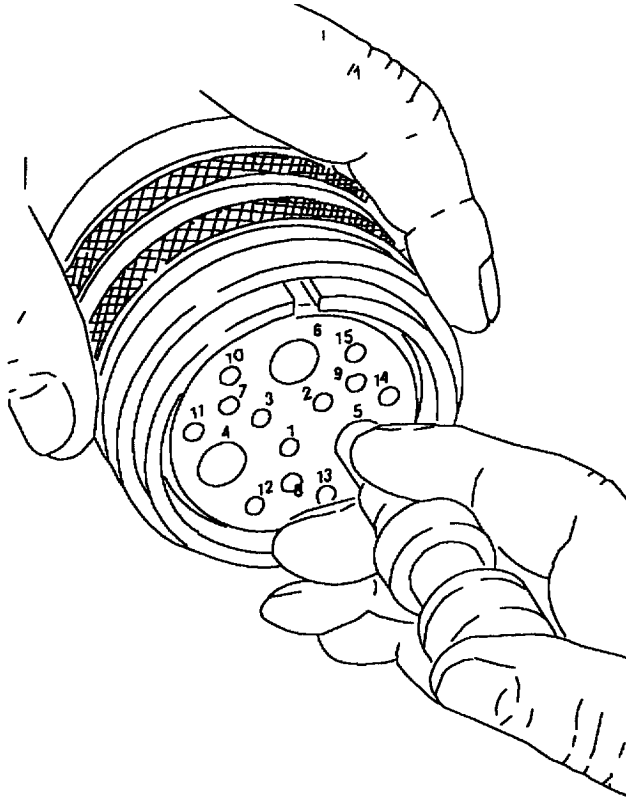
d. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed. Holding removal tool at a right angle to front of insert face, push tool straight toward rear of connector, firmly pressing tool to positive stop when it bottoms in insert cavity. See figure 41.



F/A-18-WRM-(442-10)02-CATI

Figure 41. Unlocking Coax Contact Mechanism

e. Maintain pressure on tool handle and push plunger forward until it stops. Contact shall be partly ejected from rear of connector insert. See figure 42.

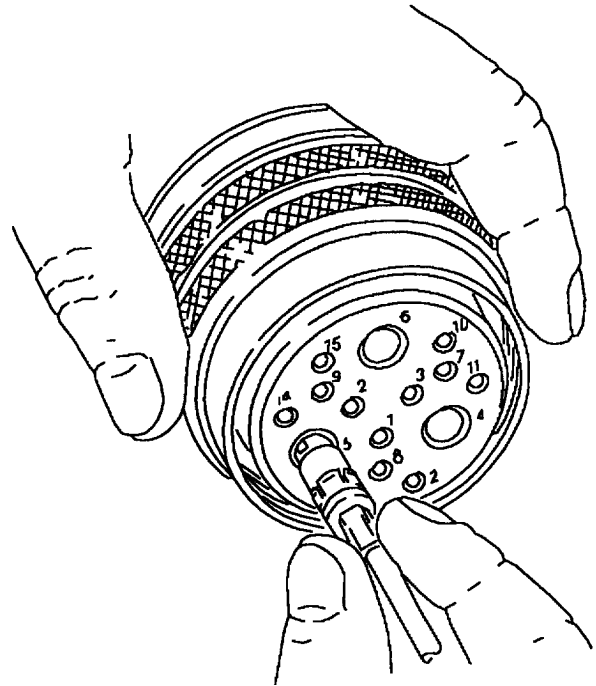


F/A-18-WRM-(442-11)02-CAT1

Figure 42. Removing Coax Contact from Connector

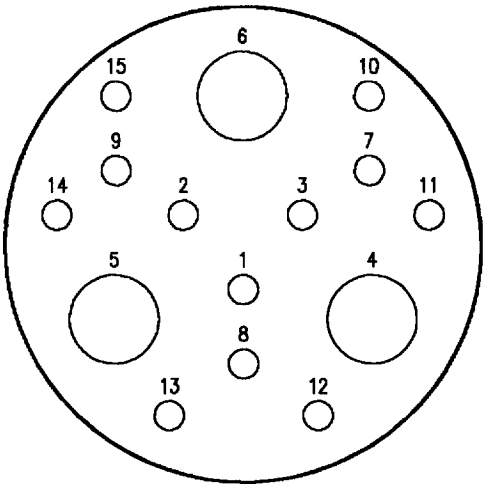
f. Remove tool from contact cavity by pulling straight to clear connector insert face.

g. Remove contact from rear of connector. See figure 43.



F/A-18-WRM-(442-12)02-CAT1

Figure 43. Extracting Coax Contact from Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(481-1)02-CAT1

Reference Designation to Backshell Data Index for DS07-27-13S1006 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
72P-B001A	380NE083NF27	This WP

Table 1. Tool Data for Wired Contact

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	K392
Insertion Tool	DAK51-20
Removal Tool	DRK51-20
Removal Tool (Unwired)	N/A

Table 2. Contact Data For Wired Contact

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 3, 7 THRU 15	3/16	800-20/30-1	MS3187-20

Figure 44. DS07-27-13S1006 Connector (Sheet 1)

Table 3. Tool Data For Coax Contact

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner (Center Contact)	K30C
Crimping Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	M22520/5-09 (Closure A)
Insertion Tool	DAK51-8
Removal Tool	DRK51-8

Table 4. Contact Data For Coax Contact

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
4, 5 and 6	See Figure 45	800/34-1	MS3187-12

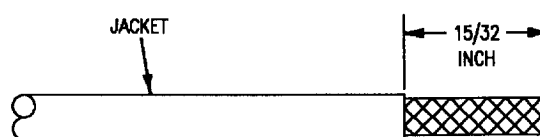
Figure 44. DS07-27-13S1006 Connector (Sheet 2)



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00.

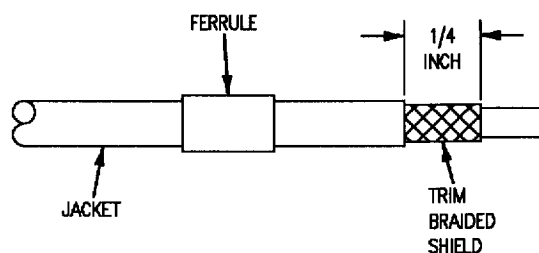
When electrical power is off, 24vdc battery voltage exists in some wiring. When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

- a. Using cable stripper 45-163 remove 15/32-inch of outer jacket from coaxial cable as shown.



F/A-18-WRM-(462-1)02-CATI

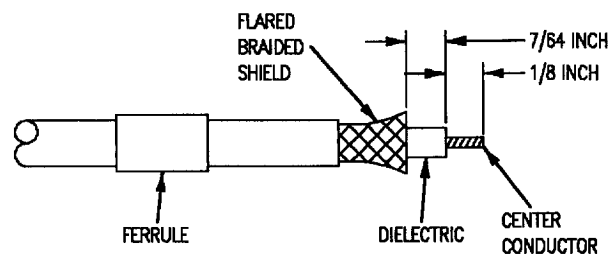
- b. Slide outer ferrule over outer jacket. Using cable stripper 45-163 trim braided shield to dimension as shown.



F/A-18-WRM-(462-2)02-CATI

Figure 45. 800/34-1 Coaxial Assembly Procedure (Sheet 1)

c. Flare braided shield as shown. Using sharp knife cut dielectric and using wire cutter 45-123 cut center conductor as shown.

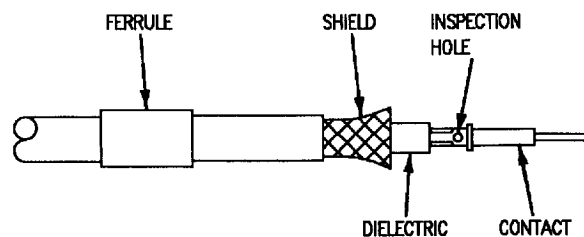


F/A-18-WRM-(462-3)02-CATI

NOTE

Center conductor must be visible through inspection hole.

d. Slide contact over center conductor and crimp using crimp tool M22520/2-01 and positioner.

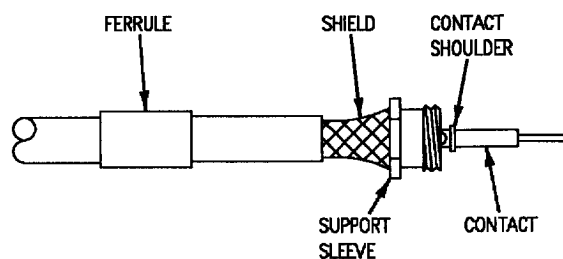


F/A-18-WRM-(462-4)02-CATI

NOTE

Support sleeve must bottom against braided shield.

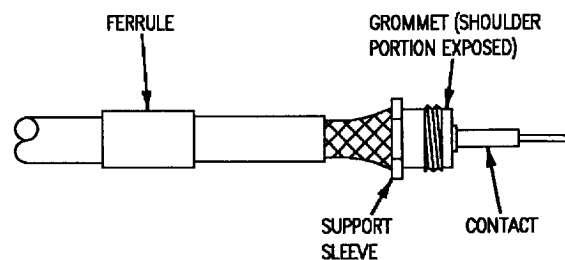
e. Slide support sleeve under braided shield.



F/A-18-WRM-(462-5)02-CATI

Figure 45. 800/34-1 Coaxial Assembly Procedure (Sheet 2)

f. Insert one half of grommet into support sleeve until it snaps behind shoulder of contact, insert other half of grommet in same way.

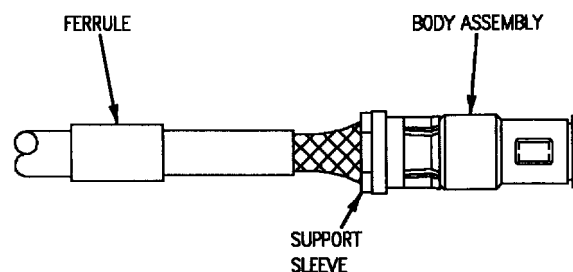


F/A-18-WRM-(462-6)02-CATI



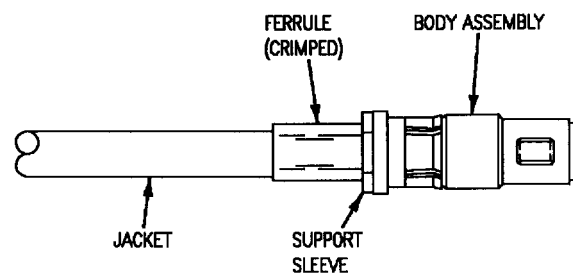
Do not allow the cable to rotate while tightening nut. Damage to center conductor may result.

g. Slide body assembly over contact and grommet. Thread body assembly onto support sleeve. Tighten until metal to metal bottoming is achieved between body assembly and support sleeve. Use open end of wrench to hold support sleeve and wrench tighten.



F/A-18-WRM-(462-7)02-CATI

h. Slide ferrule forward over shield until it butts against support sleeve and crimp using crimp tool M22520/5-01 and die set M22520/5-09 closure A.



F/A-18-WRM-(462-8)02-CATI

Figure 45. 800/34-1 Coaxial Assembly Procedure (Sheet 3)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****MS3147 (MIL-C-81703)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Protective Boot Installation for Environmental Type Connectors With Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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
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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 48	-	Automatic AC Bus Isolation, Incorporation of	1 Jun 1989	-

Reference Designation to
Figure Number Index



Reference Designation	Figure No.
 1P-A019	23
1P-C019	23
33P-J007	22
 33P-L017	22
8P-J020	22
8P-J021	22
 8P-K126	22
 8P-L118	22

1. DESCRIPTION.

2. The MS3147 connector is a multiple contact miniature, circular, environmental resistant type connector with push-pull coupling. It has crimp type front release, rear removal contacts and conforms to MIL-C-81703, Class E, and withstands temperatures from -67° to +347°F.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

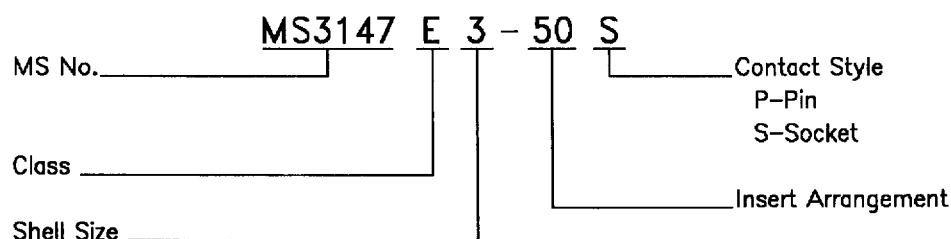
LEGEND

 F/A-18B
 F/A-18A 162394 AND UP; ALSO F/A-18A 161353 THRU 161987 AFTER AFC 48



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-81703, connectors used on F/A-18 aircraft.



F/A-18-WRM-(500-15)01-CAT1

Figure 1. Military Part Numbering System for MS3147 Connectors

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308SA100	Repair Set-Wire and Connector

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

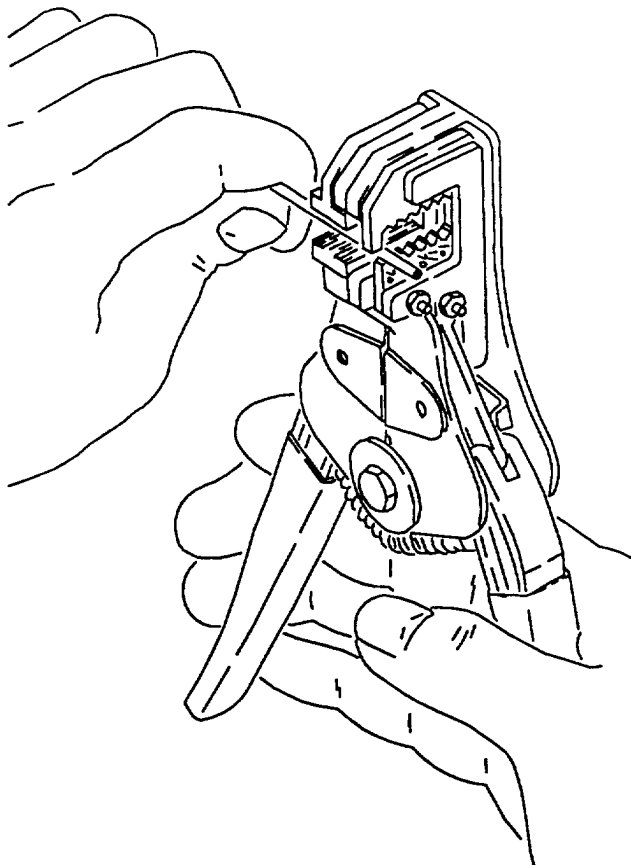
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

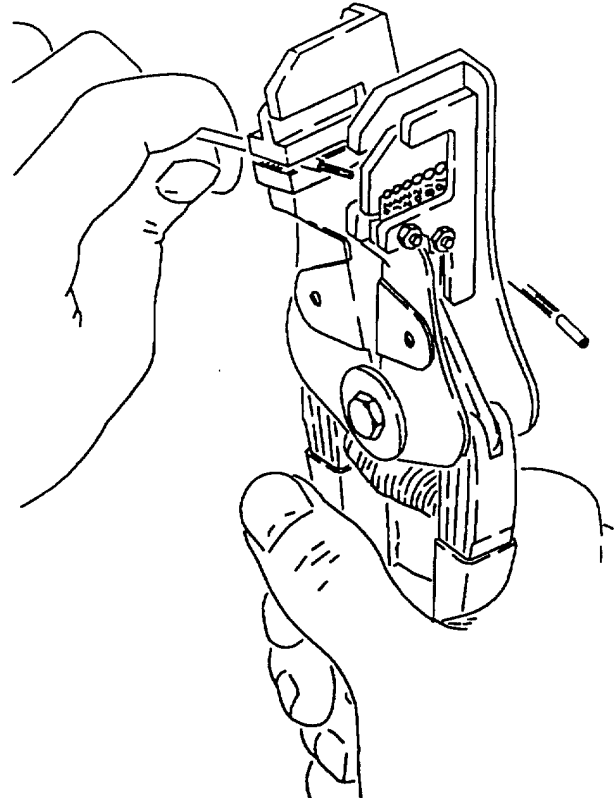
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

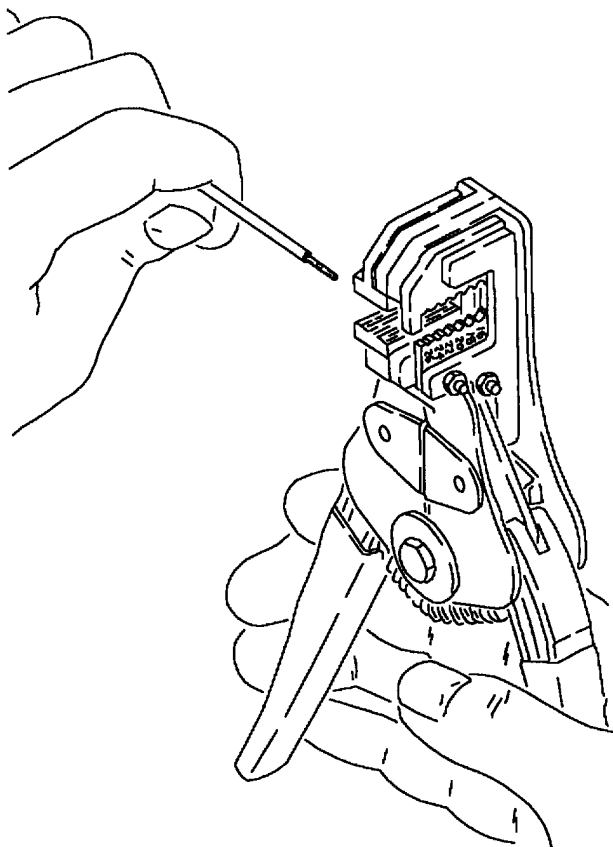
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

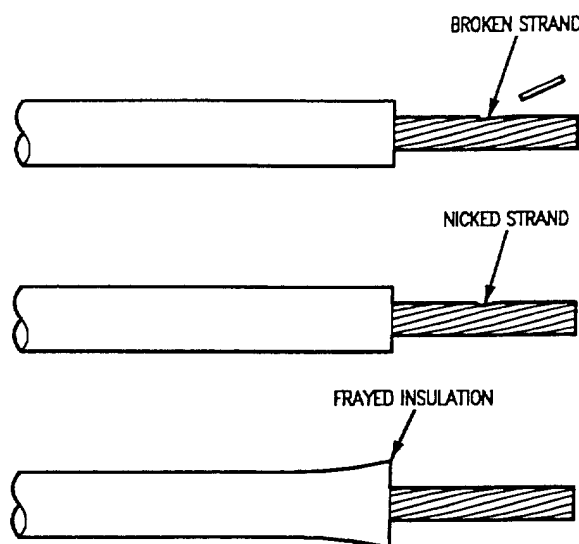


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

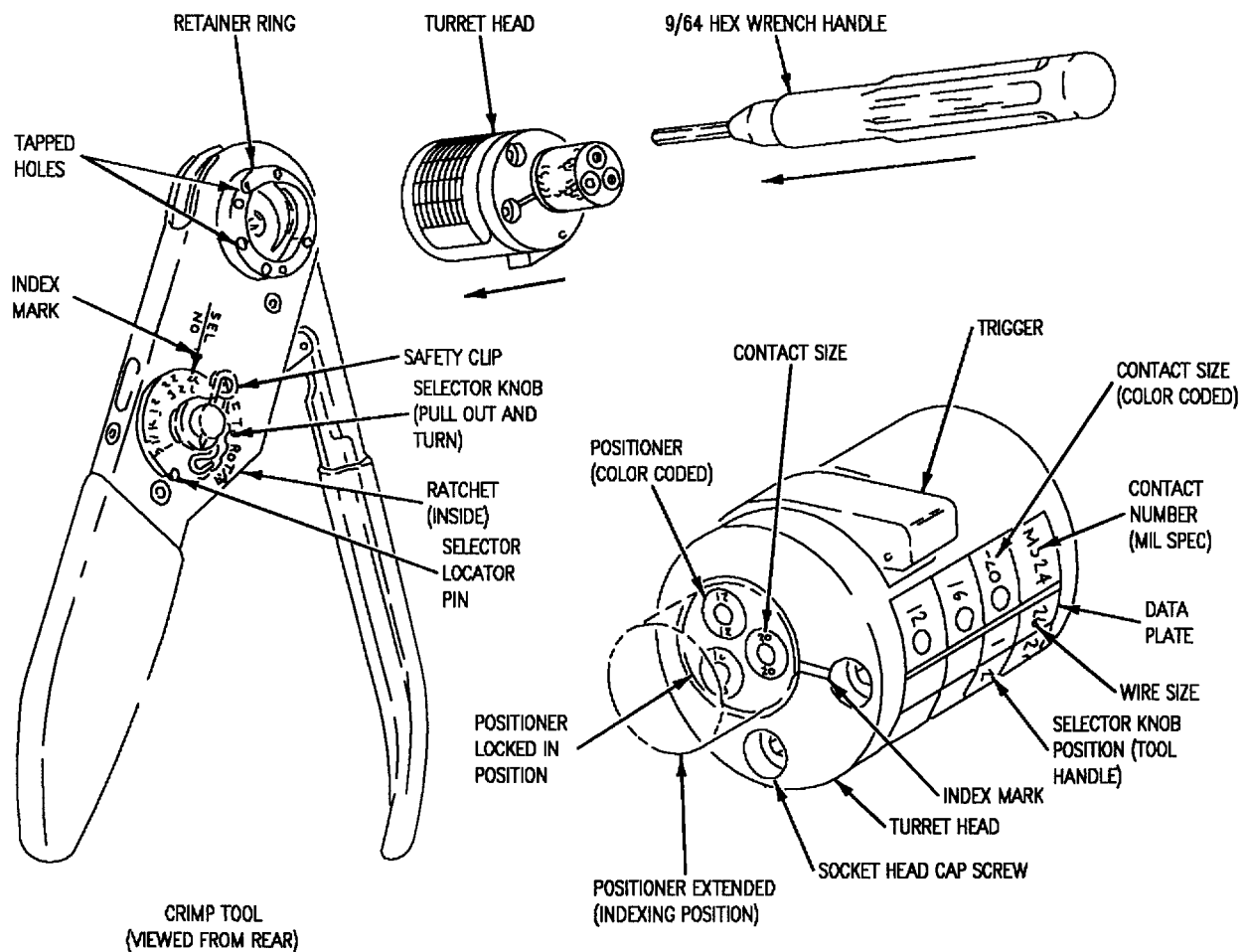
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.
- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

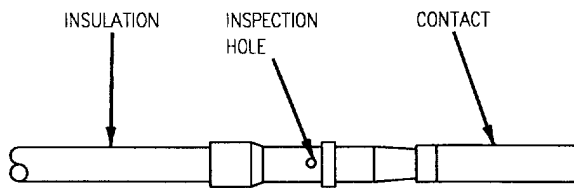
12. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.

c. Make sure insulation is in contact as shown in figure 7.



F/A-18-WRM-(W177-7)01-SCAN

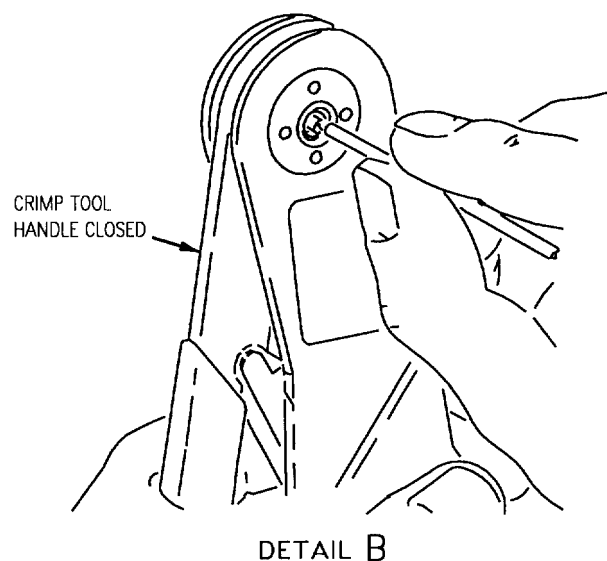
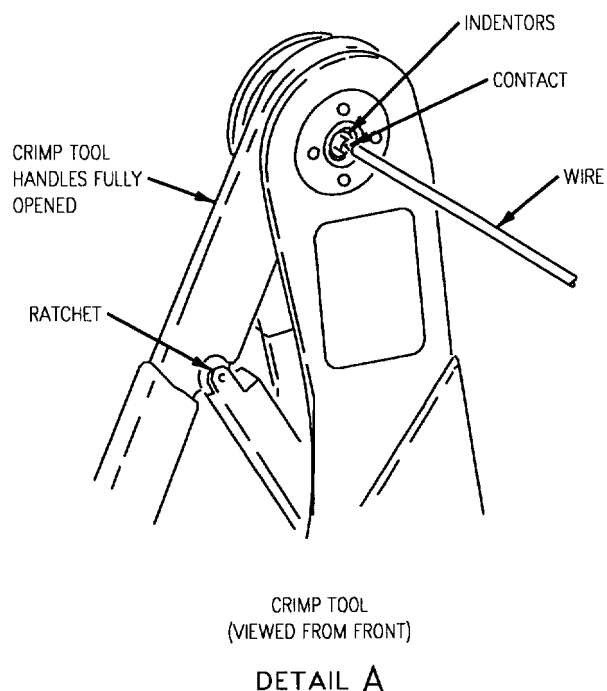
Figure 7. Insulation Strip Check

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 8, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 8, detail B.



F/A-18-WRM-(407-1)01-CATI

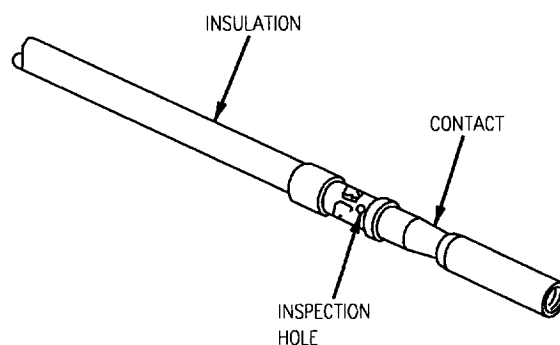
Figure 8. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole figure 9.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(721-9)02-CATI

Figure 9. Inspection of Crimped Contact

13. INSERTION OF CONTACT INTO CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

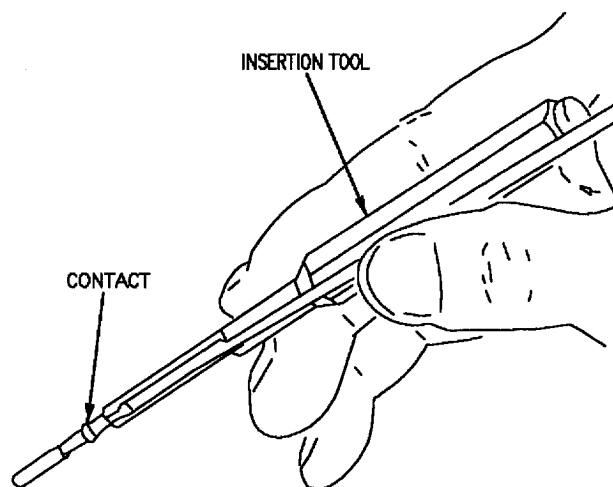
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 10.

CAUTION

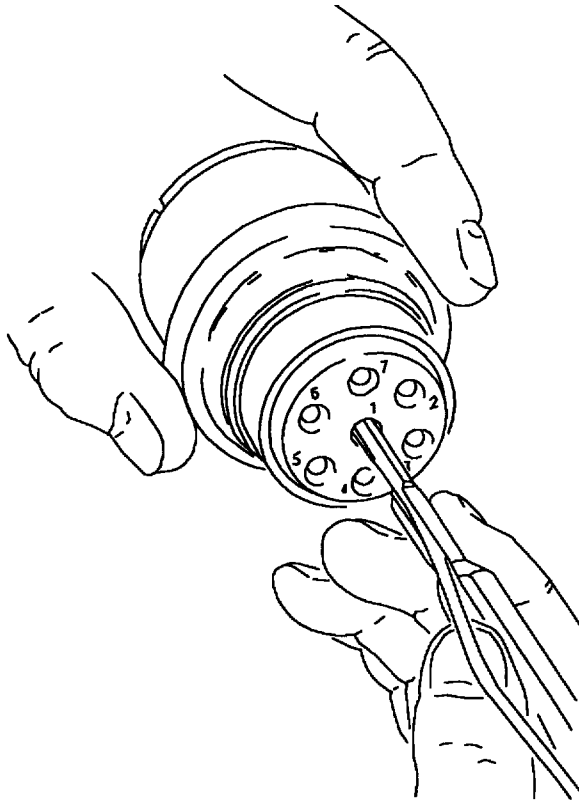
Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(721-10)02-SCAN

Figure 10. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 11.

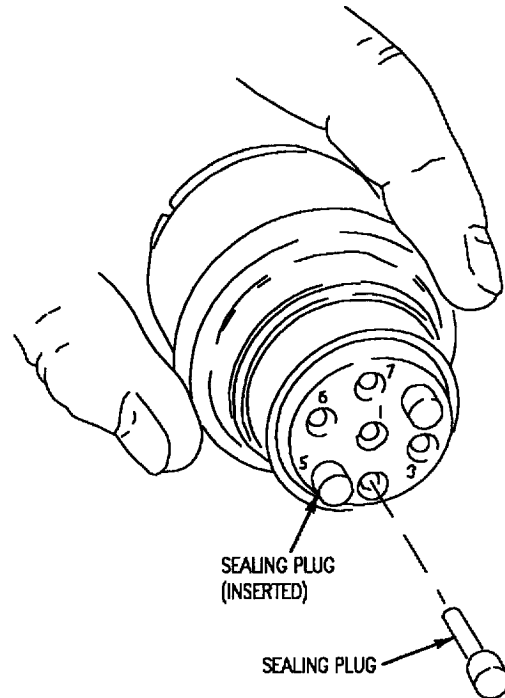


F/A-18-WRM-(585-1)02-SCAN

Figure 11. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 12.



F/A-18-WRM-(585-2)02-SCAN

Figure 12. Inserting Sealing Plug(s) into Connector

14. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

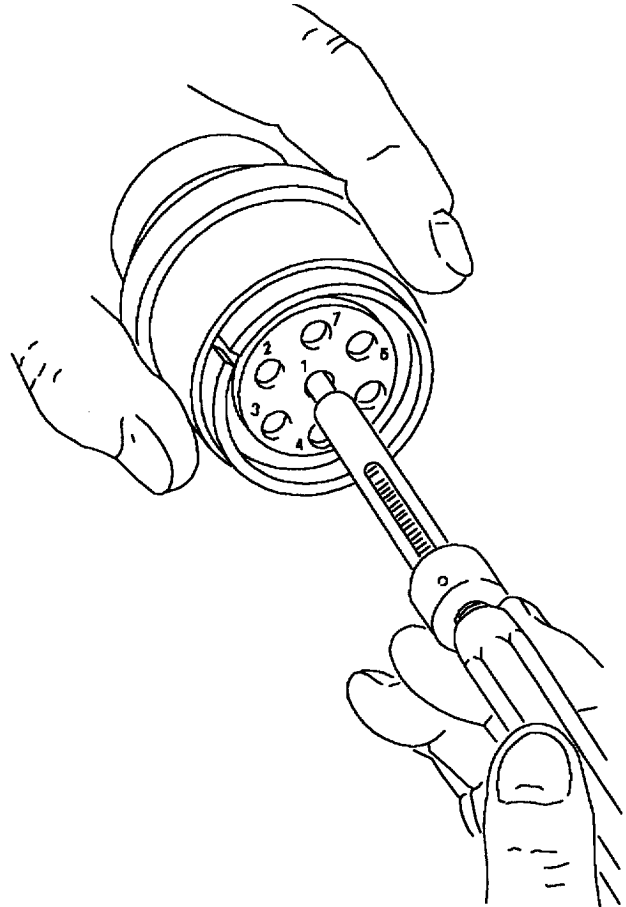
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

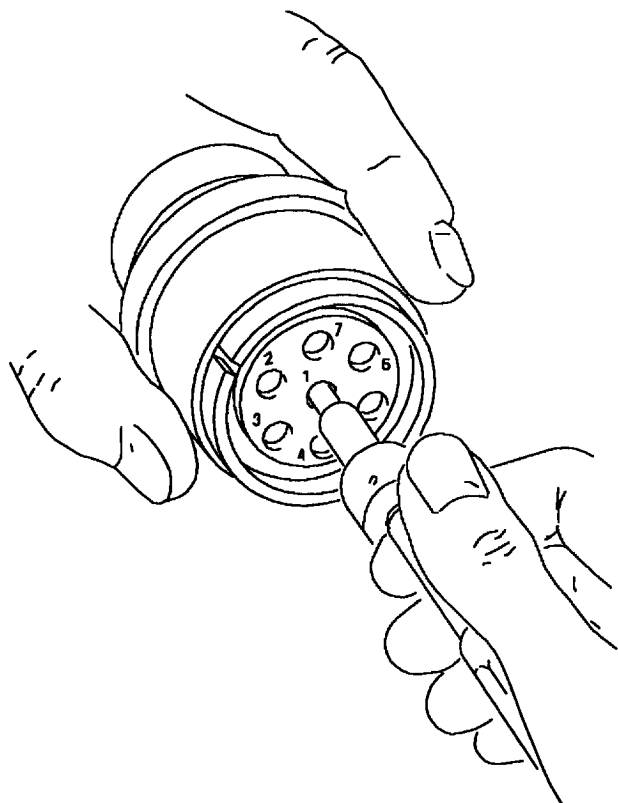
d. Align contact removal tool at right angle to forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 13.



F/A-18-WRM-(585-3)02-SCAN

Figure 13. Unlocking Wired Contact Mechanism

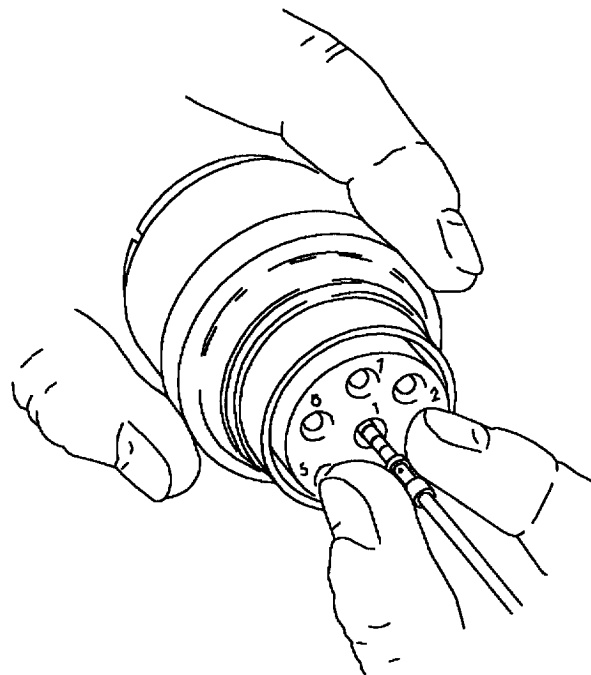
e. Push plunger of removal tool to release contact, keeping tool at right angle to the forward face of connector. See figure 14.



F/A-18-WRM-(585-4)02-SCAN

Figure 14. Removing Wired Contact from Connector

f. Pull wired contact from rear of connector and remove tool. See figure 15.



F/A-18-WRM-(585-5)02-SCAN

Figure 15. Extracting Wired Contact from Connector

15. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

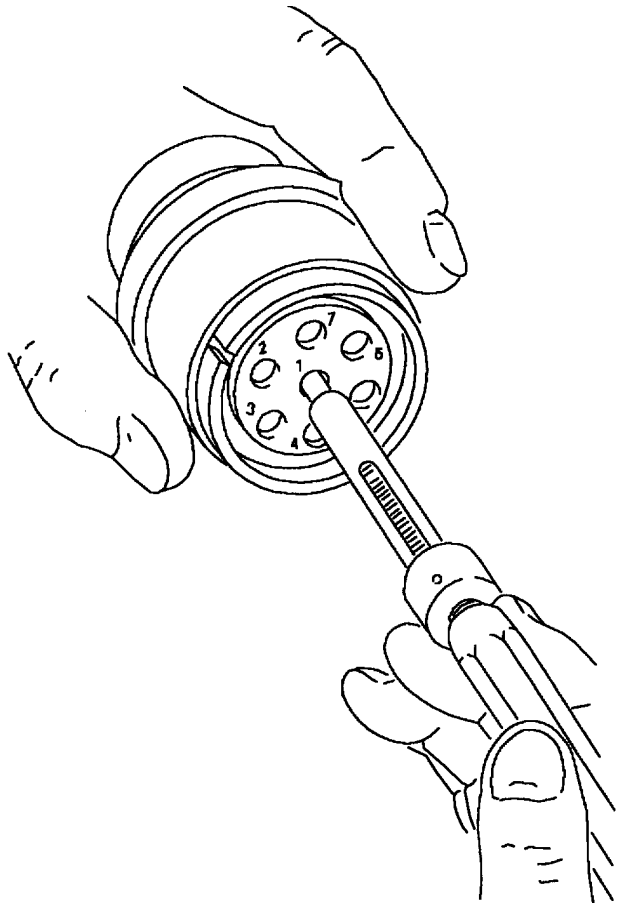
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

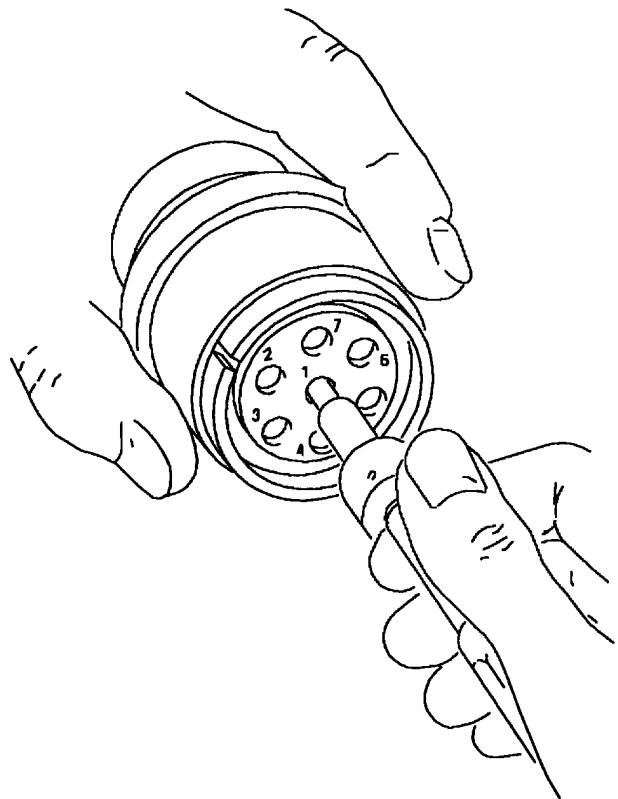
d. Align contact removal tool at right angle to the forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 16.



F/A-18-WRM-(585-3)02-SCAN

Figure 16. Unlocking Unwired Contact Mechanism

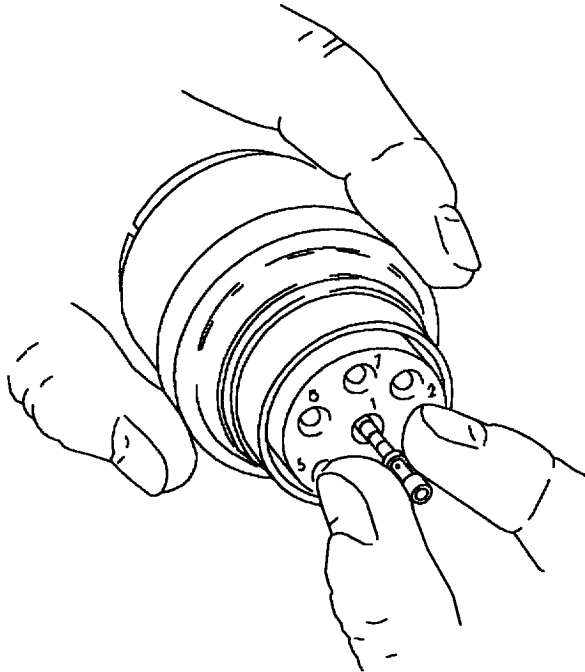
e. Push plunger of removal tool to release contact, keeping tool at right angle to the forward face of connector. See figure 17.



F/A-18-WRM-(585-4)02-SCAN

Figure 17. Removing Unwired Contact from Connector

f. Slide unwired contact out from rear of connector and remove tool. See figure 18.



F/A-18-WRM-(585-6)02-SCAN

Figure 18. Extracting Unwired Contact from Connector

16. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

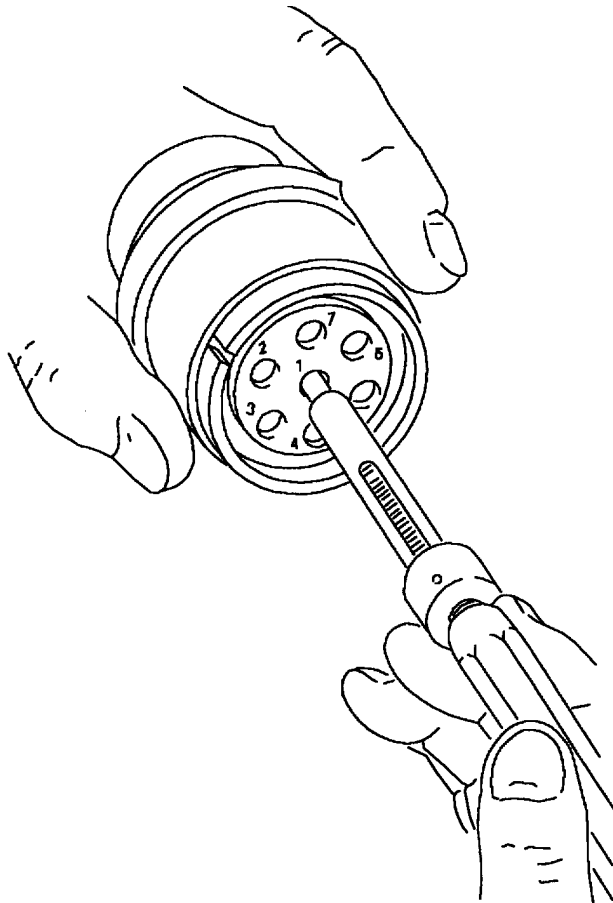
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.



Broken or frayed wire strands may cut or damage grommet when being removed. Be extremely careful when removing broken wire contacts.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

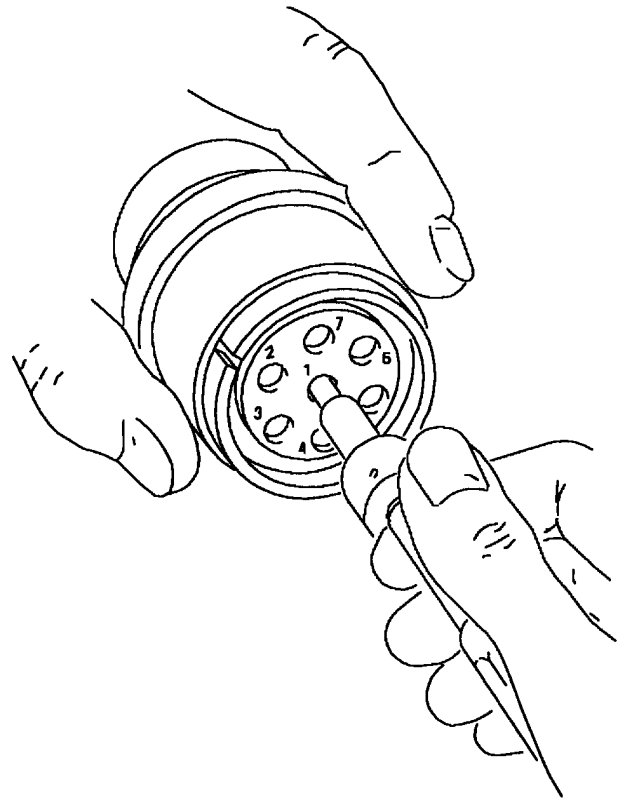
d. Align contact removal tool at right angle to the forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 19.



F/A-18-WRM-(585-3)02-SCAN

Figure 19. Unlocking Broken Wire Contact Mechanism

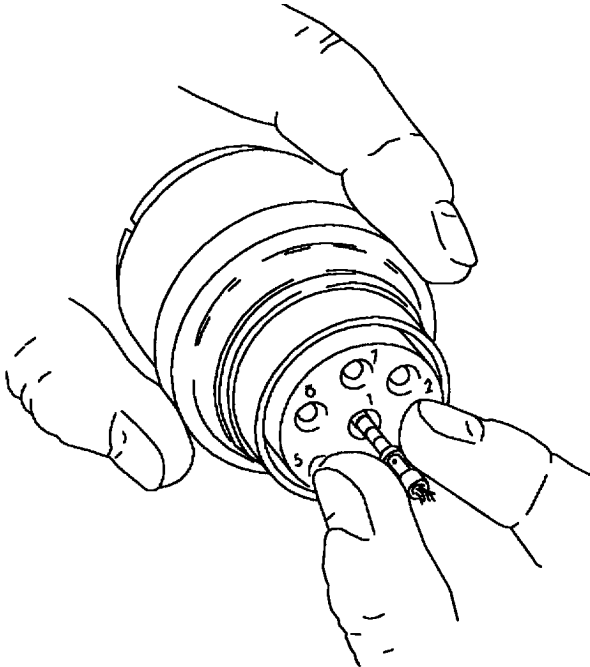
e. Push plunger of removal tool to release contact, keeping tool at right angle to the forward face of connector face. See figure 20.



F/A-18-WRM-(585-4)02-SCAN

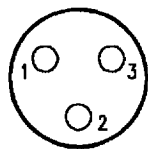
Figure 20. Removing Broken Wire Contact from Connector

f. Slide broken wire contact out from rear of connector and remove tool. See figure 21.



F/A-18-WRM-(585-7)02-SCAN

**Figure 21. Extracting Broken Wire
Contact from Connector**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(803-3A)01-CATI 8

Reference Designation to Backshell Data Index for MS3147E3-50S Connector





REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
33P-J007	17541-3-023	080 00
 33P-L017	17541-3	080 00
8P-J020	17541-3-023	080 00
8P-J021	17541-3-023	080 00
 8P-K126	17541-3	080 00
 8P-L118	380NE083T3	080 00
 F/A-18B		

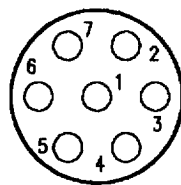
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Turret Head (Red)	M22520/1-02
Insertion Tool	M81969/17-03
Removal Tool	M81969/19-07
Removal Tool (Unwired)	M81969/19-07

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 3	7/32	M39029/32-242	MS3187A20

Figure 22. MS3147E3-50S Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(907-7)01-CATI

Reference Designation to Backshell Data Index for MS3147E7-50S Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 1P-A019	380NE083NF7	080 00
 1P-C019	380NE083NF7	080 00
 F/A-18A 162374 AND UP; ALSO F/A-18A 161353 THRU 161987 AFTER AFC 48.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner (Red)	M22520/1-02
Insertion Tool	M81969/17-03
Removal Tool	M81969/19-07
Removal Tool (Unwired)	M81969/19-07

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 7	7/32	M39029/32-242	MS3187A20

Figure 23. MS3147E7-50S Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****17371-0108 (MIL-C-81703)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

Reference Designation to Figure
Number IndexReference
Designation

Figure No.

61P-Y247A

21

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



1. DESCRIPTION.

2. The 17371-0108 connector is a multiple contact miniature circular, environmental-resistant push-pull lanyard connector. It has crimp type front release, rear-removal contacts and conforms to MIL-C-81703, and can withstand temperatures from -55° to +175°C.

Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector
M15513-16	Insertion Tool
M15515-16	Removal Tool
M22520/2-21	Positioner

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

4. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

5. REPAIR PROCEDURE.

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

6. WIRE PREPARATION.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

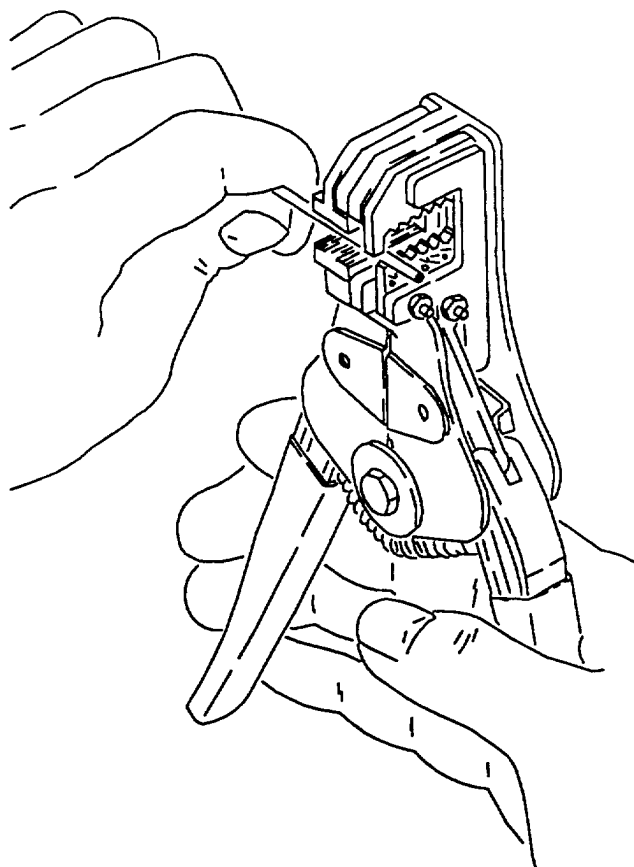
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

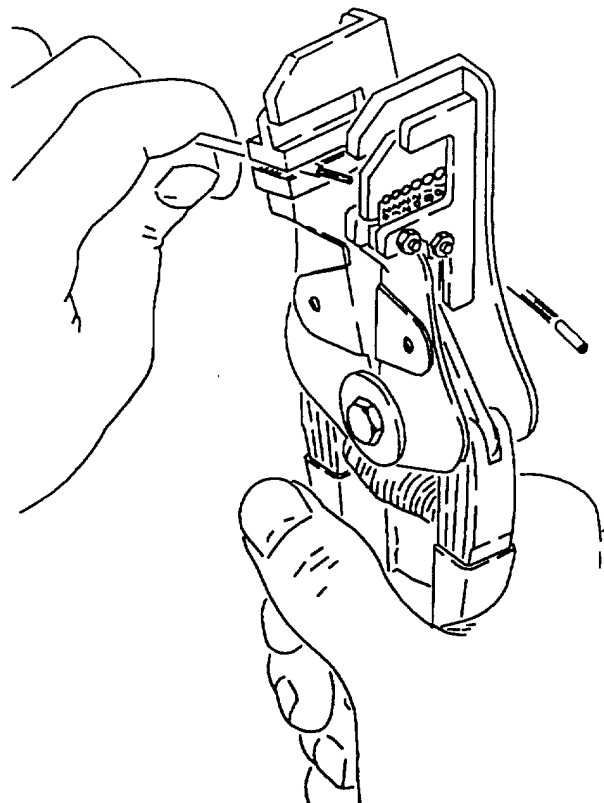
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.



F/A-18-WRM-(401-1)01-SCAN

Figure 1. Placing Wire in Slot of Stripping Tool

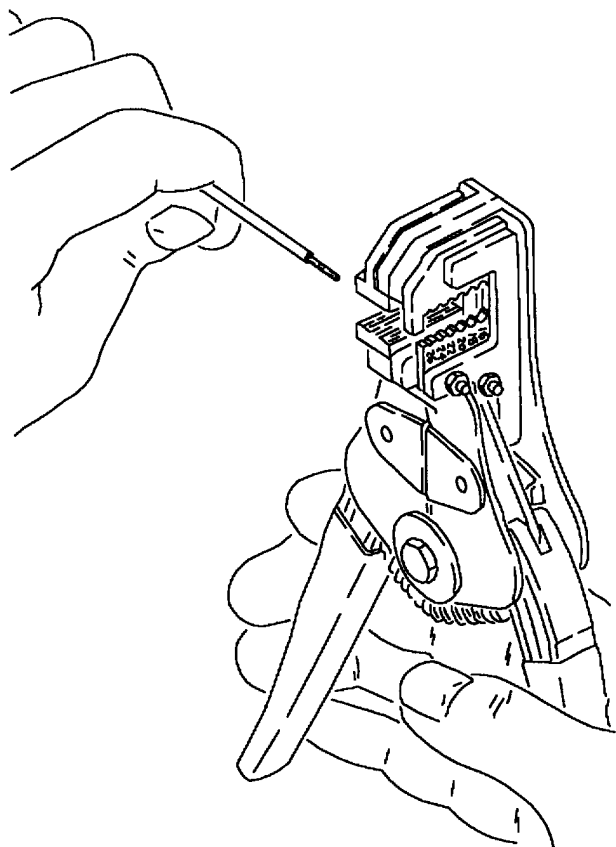
e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.

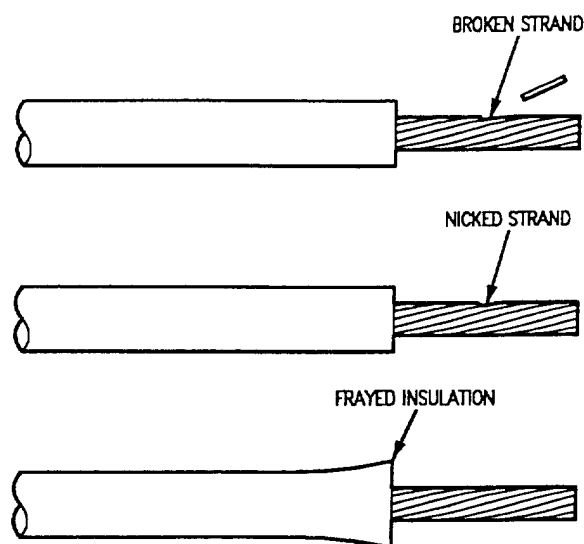


F/A-18-WRM-(403-1)01-SCAN

Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 4. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

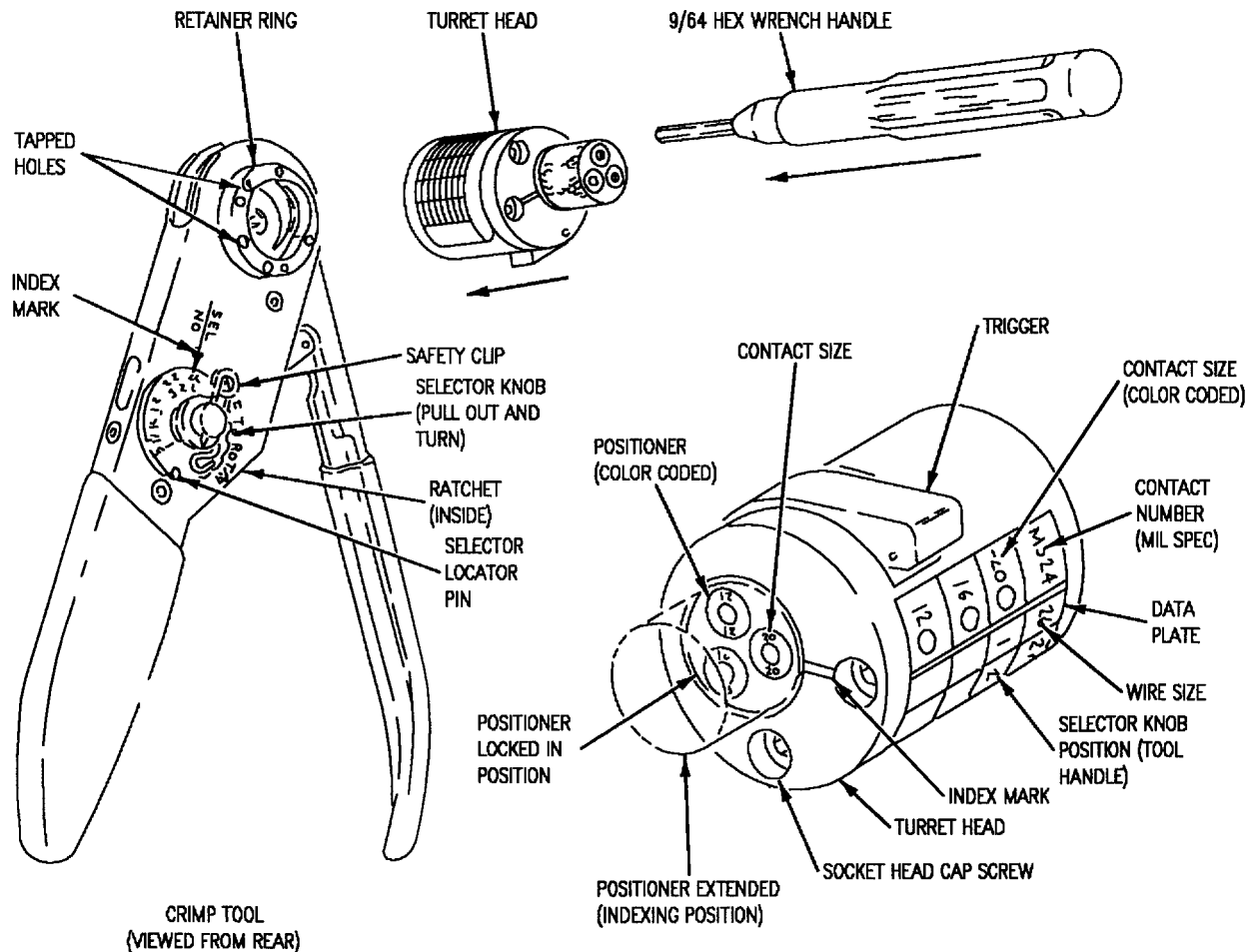
8. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 5.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.



F/A-18-WRM-(405-1)01-CATI

Figure 5. M22520/1-01 Crimp Tool Handle and Turret Head

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.

9. ADJUSTING TURRET HEAD BEFORE CRIMPING.

a. Press trigger on turret head releasing positioner to extended (indexing) position.

b. Select position desired from color coded data plate on side of turret head assembly.

c. Rotate positioners until color coded positioner is lined up with index mark.

d. Press positioner into turret head until it snaps into locked position.

10. SETTING SELECTOR KNOB USING TURRET HEAD.

a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

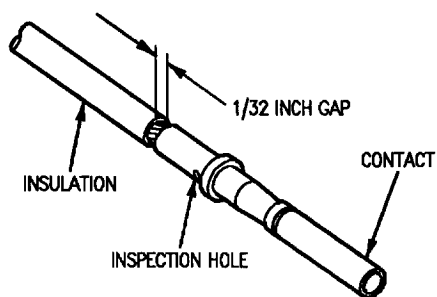
b. Remove the safety clip lock from selector knob.

c. Raise selector knob and rotate to selector number found on data plate.

d. Replace safety clip.

11. CONTACT CRIMPING.

- a. Select correct contact specified in table 2 for affected connector part number
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 6.



F/A-18-WRM-(406-1)01-CATI

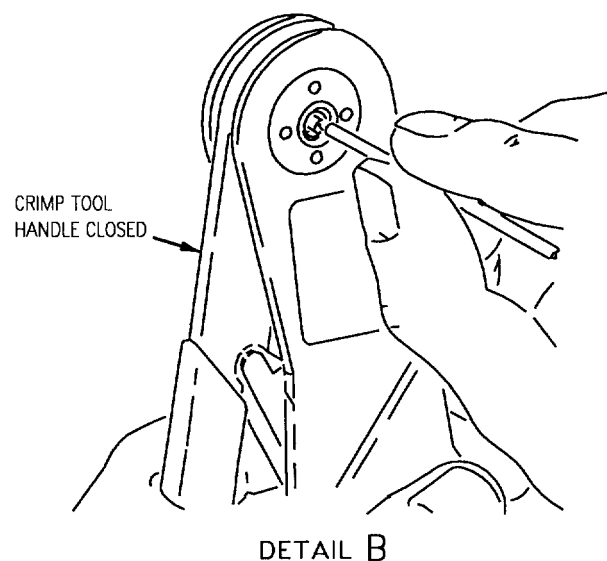
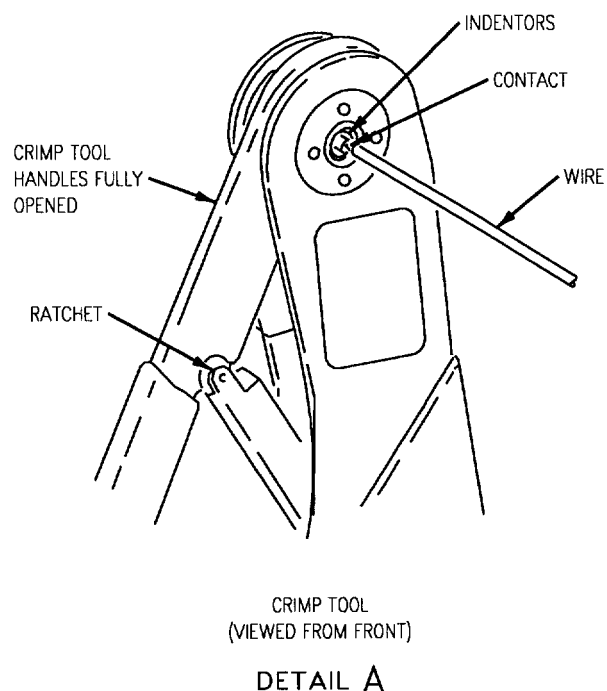
Figure 6. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turrent. See figure 7, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 7, detail B.



F/A-18-WRM-(407-1)01-CATI

Figure 7. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 8.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.

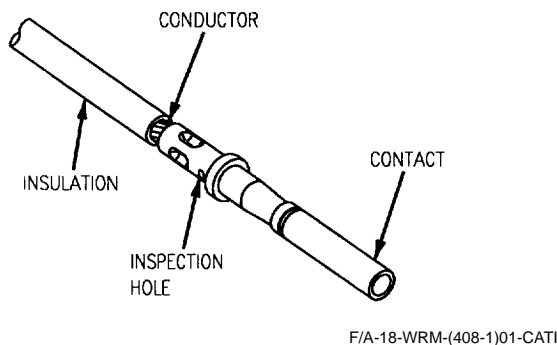


Figure 8. Inspection of Crimping Contact

12. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 9.



Damage may occur to contact insertion tool if tilted or rotated when in connector insert.

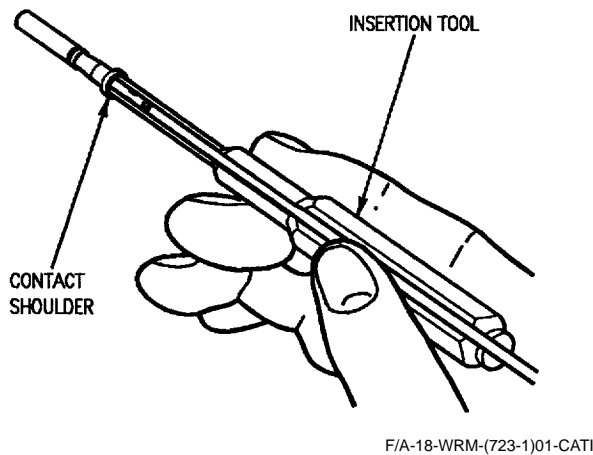


Figure 9. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 10.

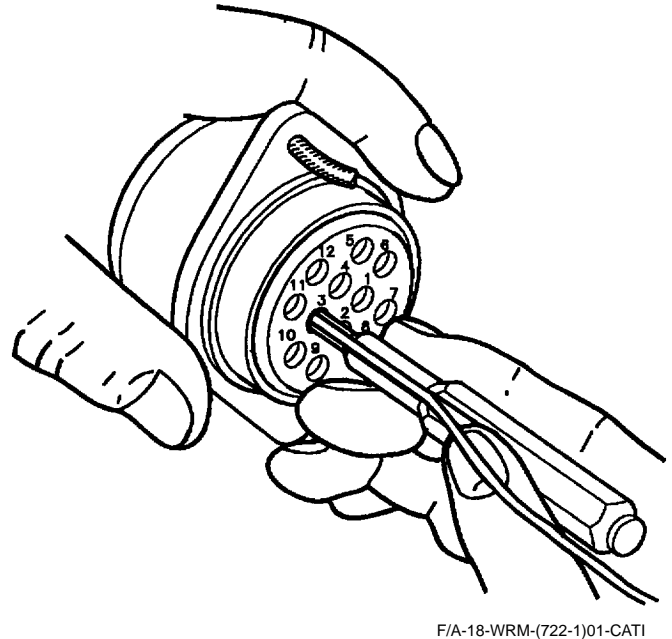


Figure 10. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 11.

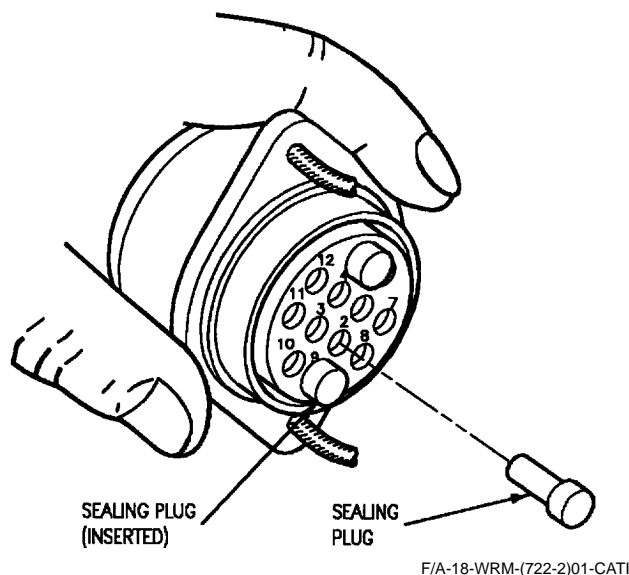


Figure 11. Inserting Sealing Plug(s) into Connector

13. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

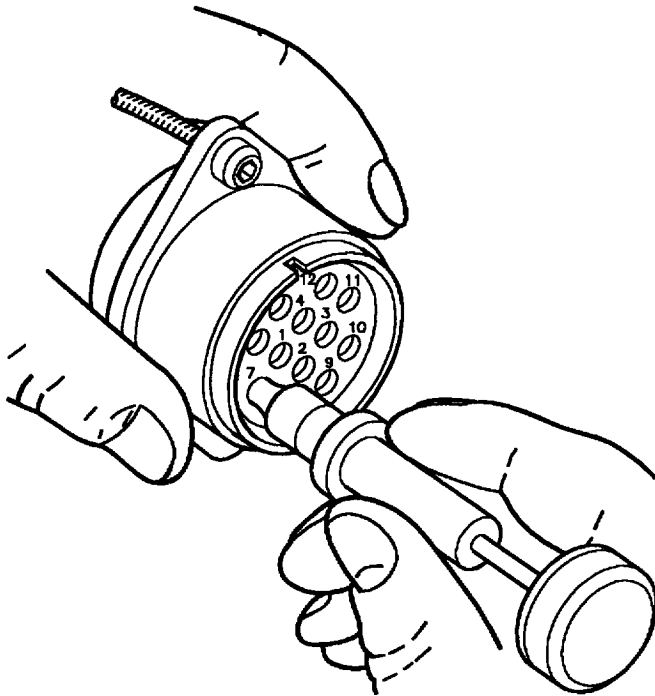
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

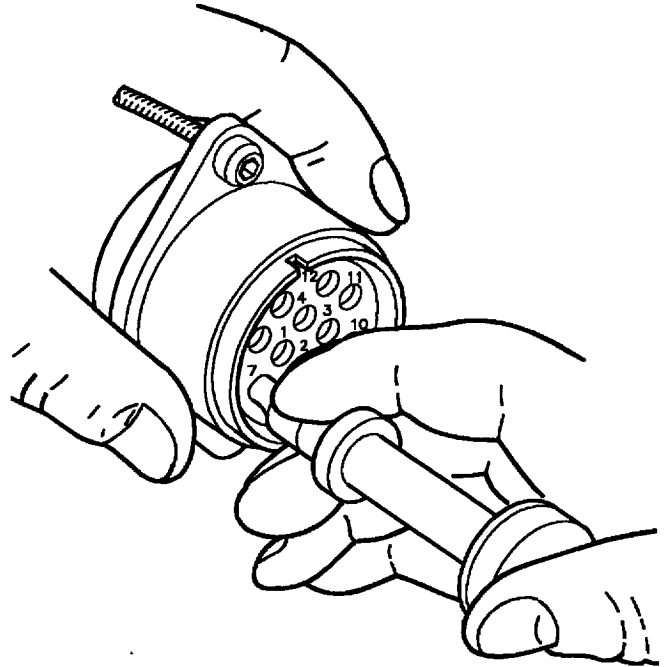
d. Align contact removal tool at right angle to the forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 12.



F/A-18-WRM-(720-1)01-CATI

Figure 12. Unlocking Wired Contact Mechanism

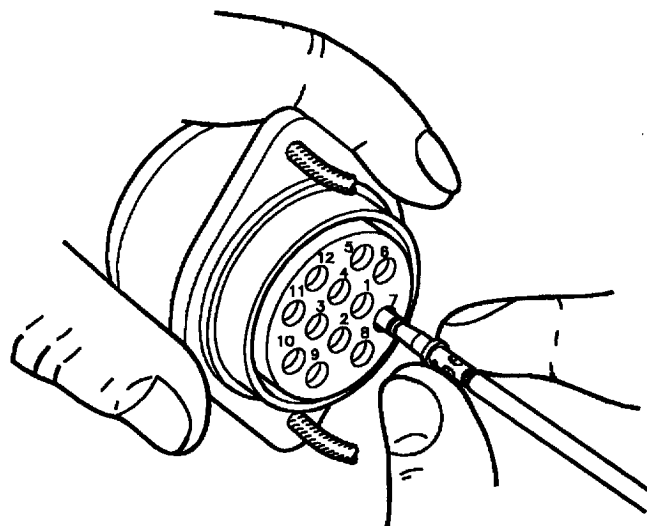
e. Push plunger of removal tool to release contact, keeping tool at right angle to connector face. See figure 13.



F/A-18-WRM-(720-2)01-CATI

Figure 13. Removing Wired Contact from Connector

f. Pull wired contact from rear of connector and remove tool. See figure 14.



F/A-18-WRM-(722-3)01-CATI

Figure 14. Extracting Wired Contact from Connector

14. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

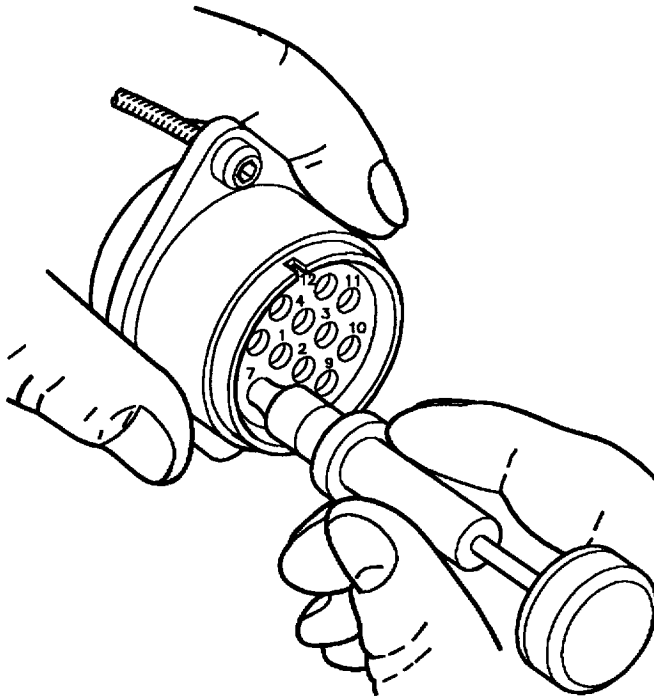
(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

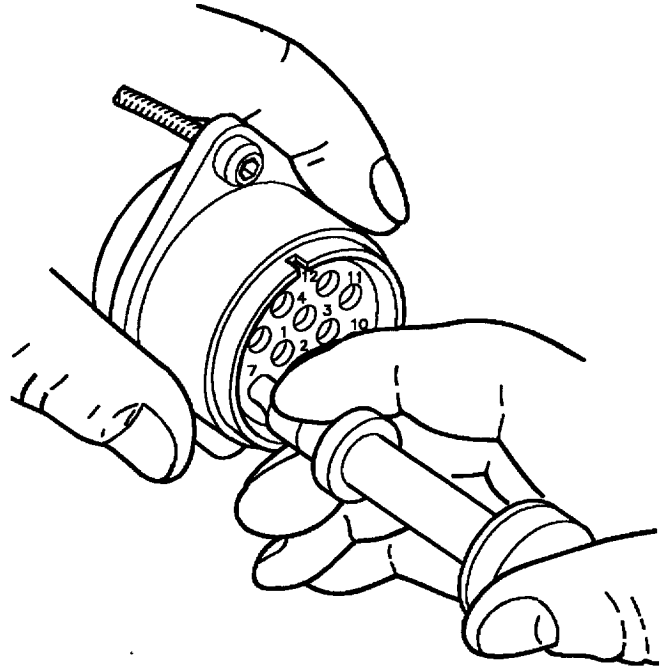
c. Align contact removal tool at right angle to the forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 15.



F/A-18-WRM-(720-1)01-CAT1

Figure 15. Unlocking Unwired Contact Mechanism

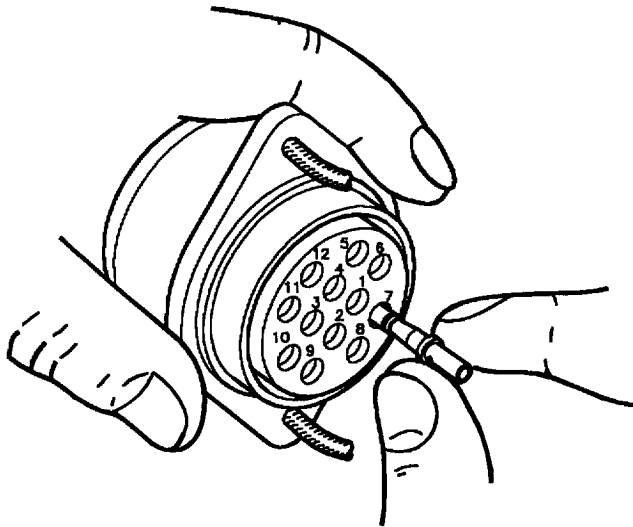
d. Push plunger of removal tool to release contact, keeping tool at right angle to connector face. See figure 16.



F/A-18-WRM-(720-2)01-CAT1

Figure 16. Removing Unwired Contact from Connector

e. Slide unwired contact out from rear of connector and remove tool. See figure 17.



F/A-18-WRM-(722-4)01-CAT I

Figure 17. Extracting Unwired Contact from Connector

15. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

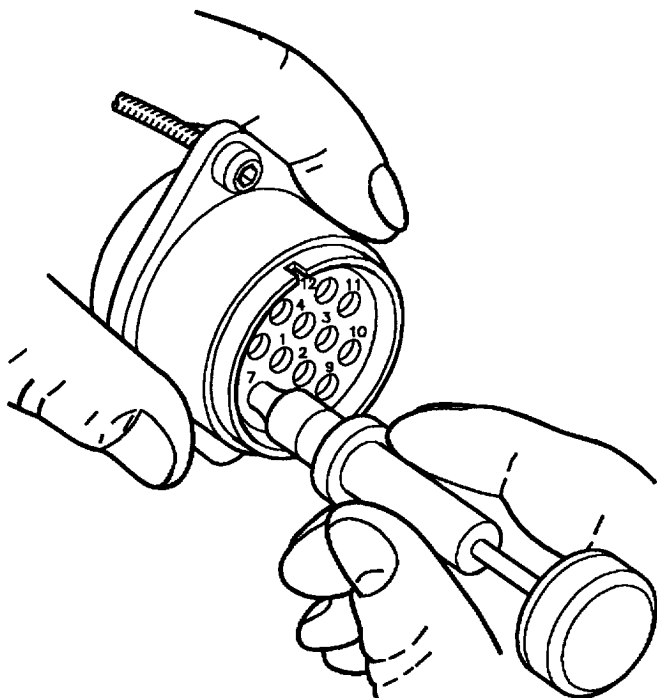
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector face or by dipping tool.



Broken or frayed wire strands may cut or damage grommet when being removed. Be extremely careful when removing broken wire contacts.

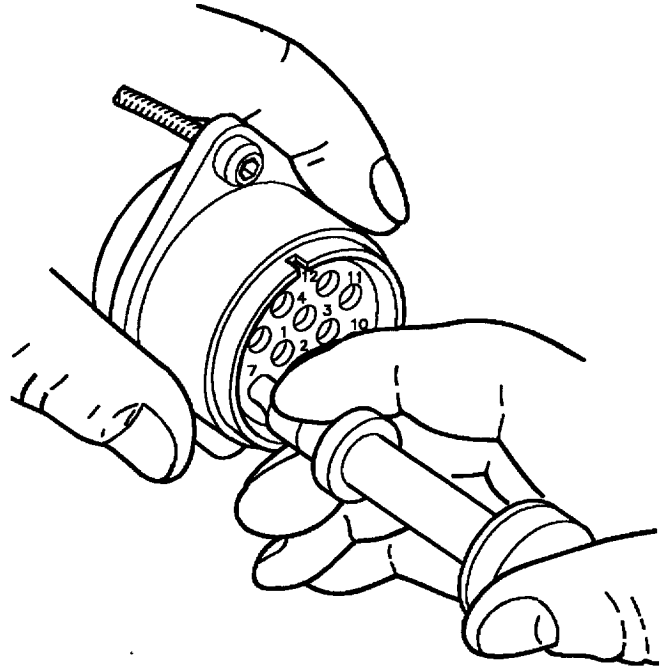
e. Align contact removal tool at right angle to the forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 18.



F/A-18-WRM-(720-1)01-CATI

Figure 18. Unlocking Broken Wire Contact Mechanism

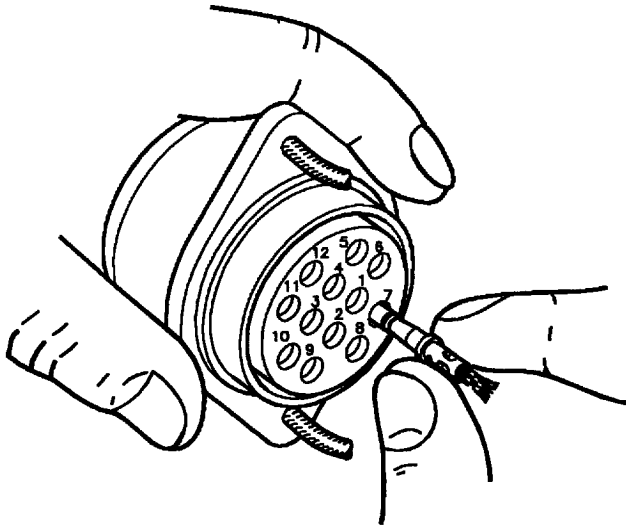
f. Push plunger of removal tool to release contact, keeping tool at right angle to connector face. See figure 19.



F/A-18-WRM-(720-2)01-CATI

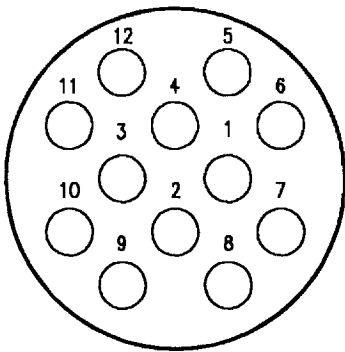
Figure 19. Removing Broken Wire Contact from Connector

g. Slide broken wire contact out from rear of connector and remove tool. See figure 20.



F/A-18-WRM-(722-5)01-CAT I

**Figure 20. Extracting Broken Wire
Contact from Connector**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(819-12)01-CATI

Reference Designation to Backshell Data Index for 17371-0108 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-Y247A	G7173-19NF	060 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2 -21
Insertion Tool	M15513-16
Removal Tool	M15515-16
Removal Tool (Unwired)	M15515-16

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 12	3/16	200-16/30-3	MS27488-16

Figure 21. 17371-0108 Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****MS24266 (MIL-C-26500)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Protective Boot Installation for Environmental Type Connectors With Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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
Record of Applicable Technical Directives

None

Reference Designation to Figure
Number Index


Reference
Designation

Figure No.

 64P-E001Q

35

LEGEND

 161702 AND UP.

1. **DESCRIPTION.**

2. The MIL-C-26500 electrical connectors are bayonet coupling, circular environmental resistant type connectors. They have removable front release crimped type contacts.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

4. See figure 1 for a breakdown of the military part numbering system for MIL-C-26500 connectors used on F/A-18 aircraft.

Support Equipment Required

Part Number or
Type Designation

Nomenclature

3308AS100

Repair Set-Wire and
Connector

HT-900

Heat Tool

1317AS100-1

Nitrogen Servicing
Unit-NAN-3

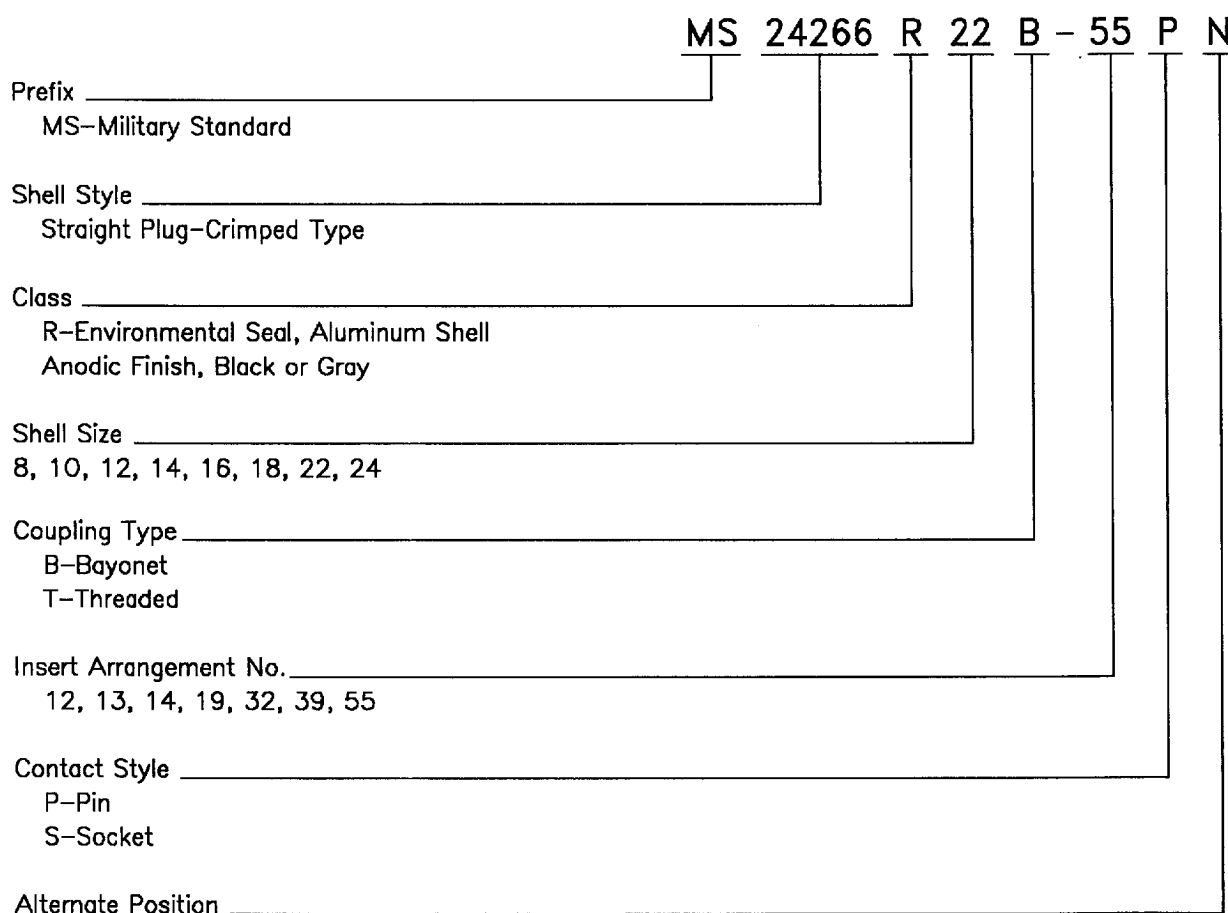
Materials Required

Specification
or Part Number

Nomenclature

TT-I-735 GRADE B

Isopropyl Alcohol



F/A-18-WRM-(500-16)01-CATI

Figure 1. Military Part Numbering System for MIL-C-26500 Connectors**5. CORROSION CONTROL**

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

7. WIRE PREPARATION.

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

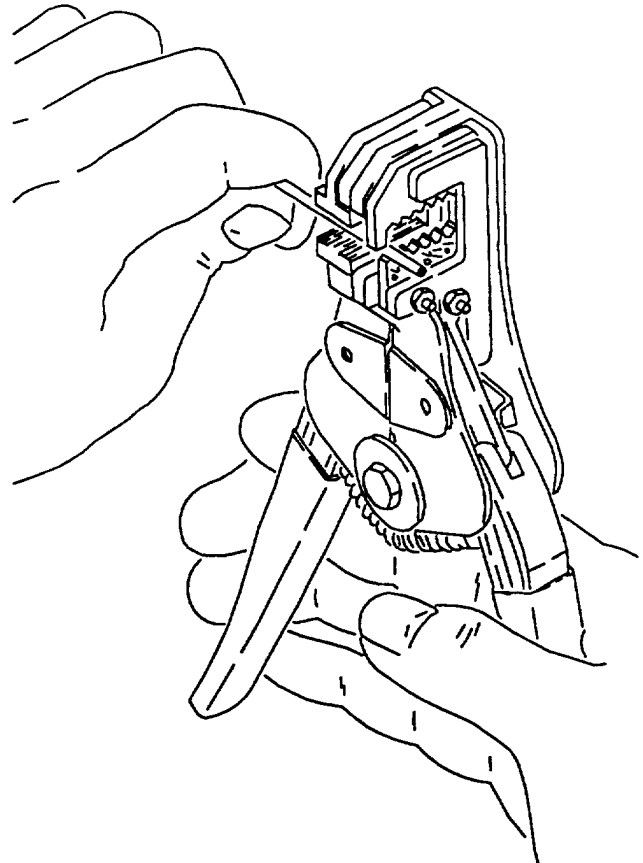
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

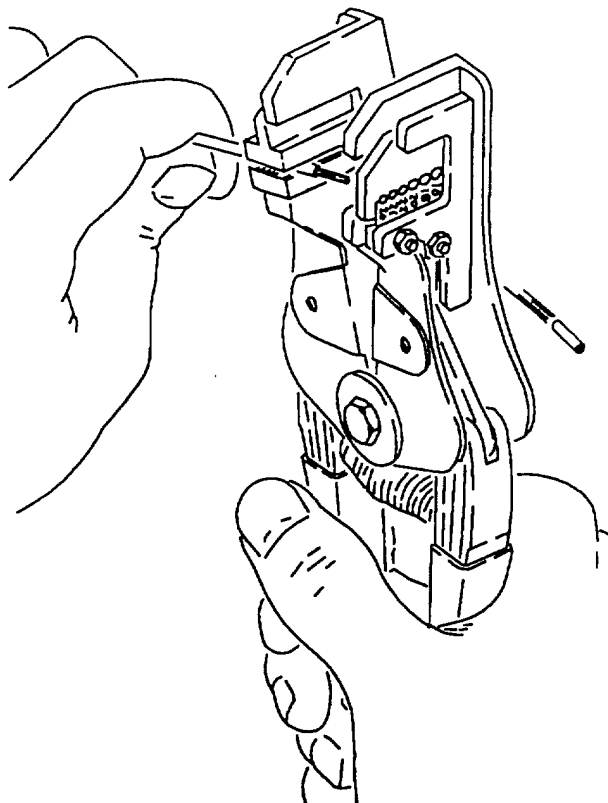
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

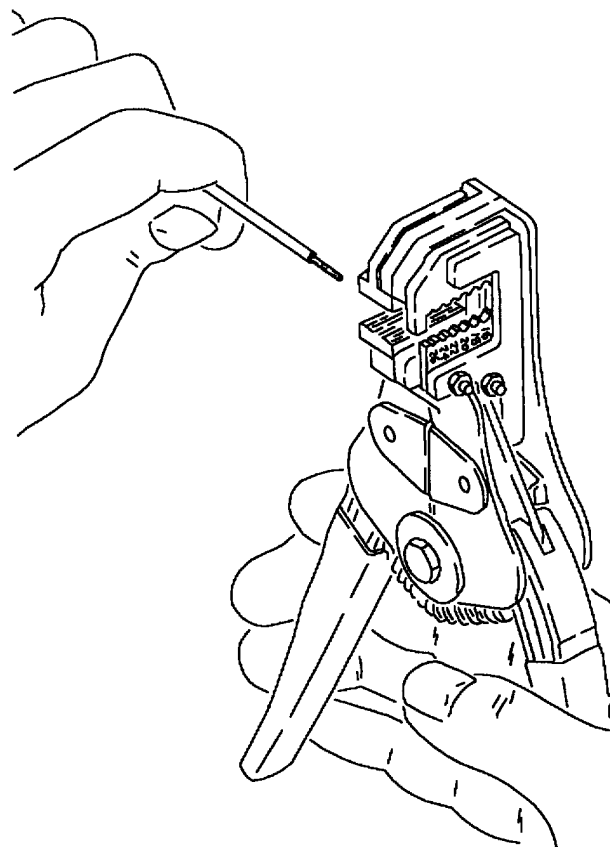
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.



F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.

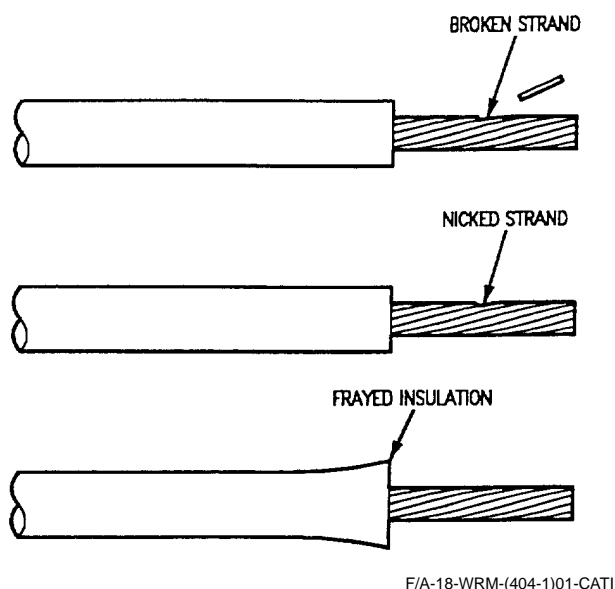


Figure 5. Unacceptable Conditions

8. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

9. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

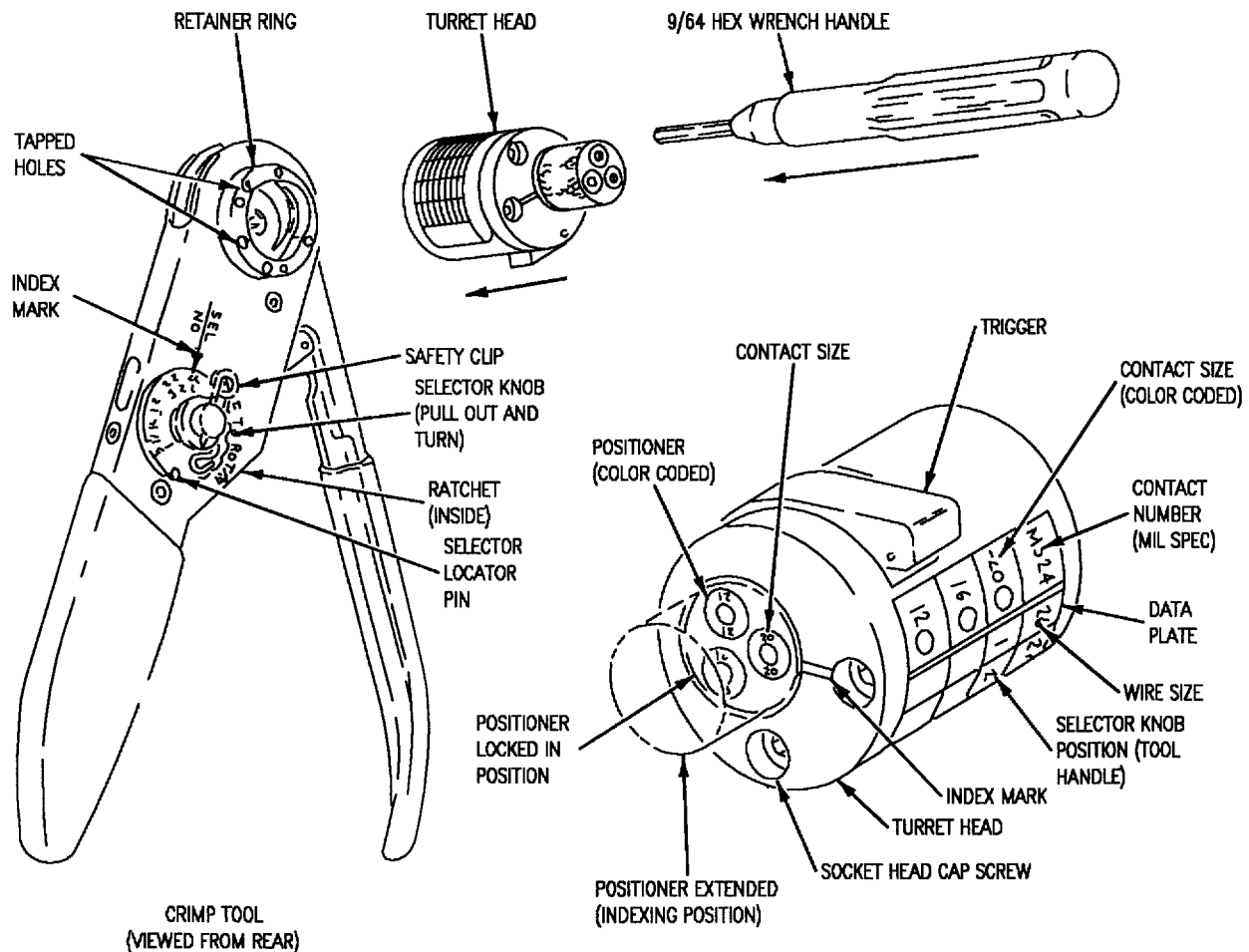
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CAT1

Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

10. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

11. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

12. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

13. REMOVAL AND INSTALLATION OF POSITIONER.

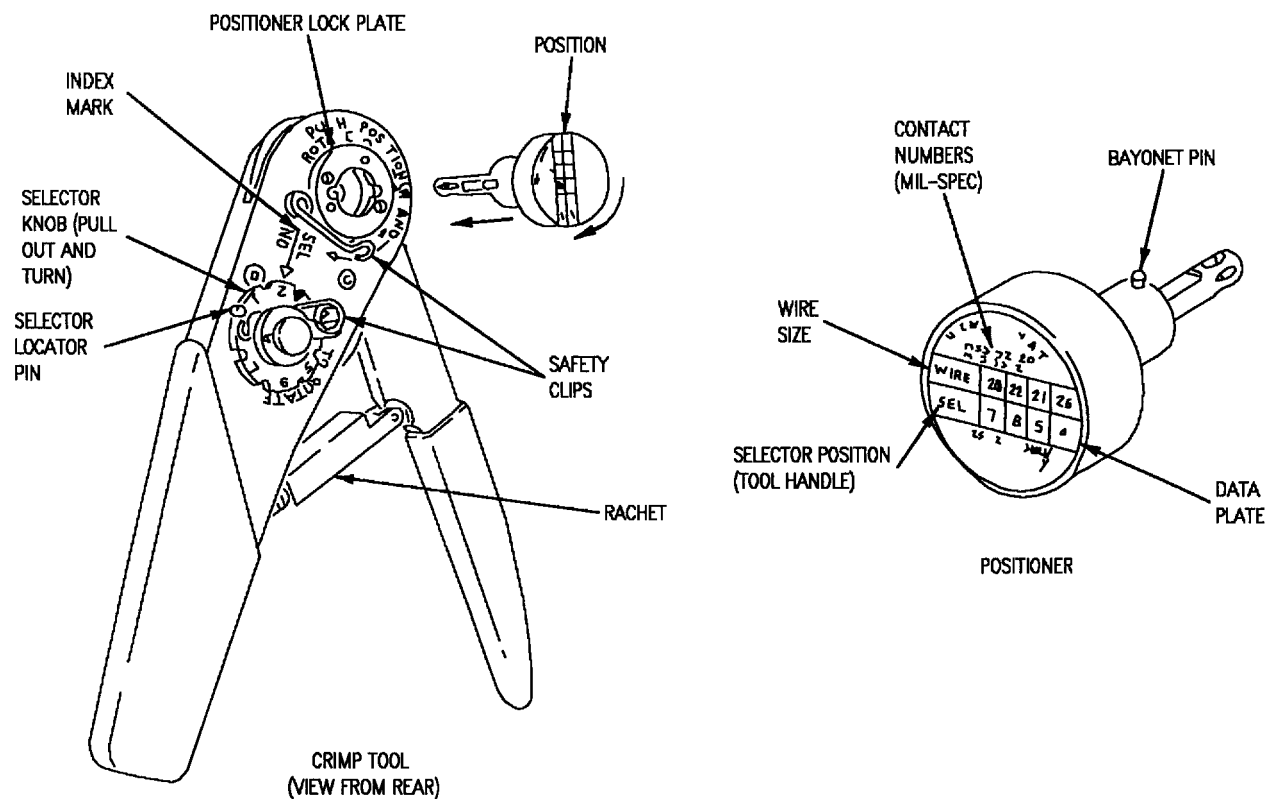
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

14. SETTING SELECTOR KNOB.

- Locate wire size on data plate of positioner and note corresponding selector number.
- Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- Install safety clip.

15. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- Select correct contact specified in table 2 for affected connector part number
- Insert stripped wire into contact and make sure strands are visible in contact inspection hole as shown in figure 8.

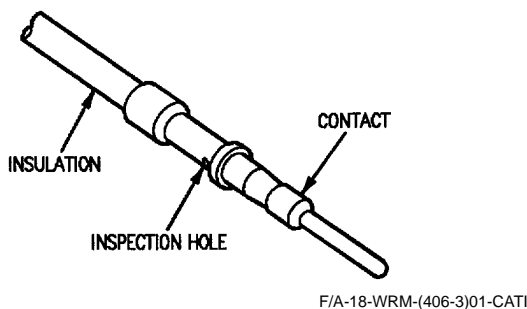


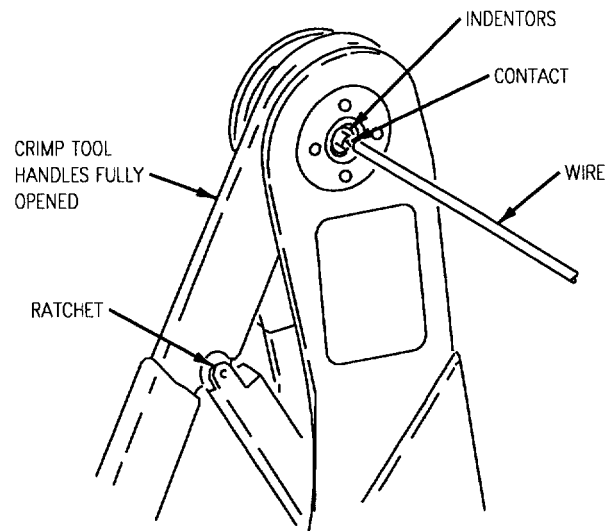
Figure 8. Insulation Strip Check

- Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

NOTE

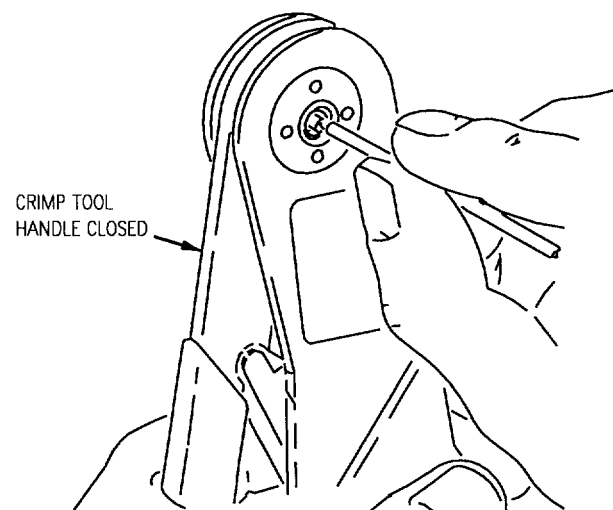
Crimp tool will not release until crimping cycle is completed.

- Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CATI

Figure 9. Contact Crimping

e. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.

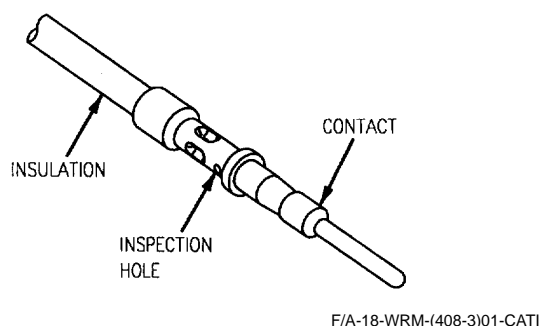


Figure 10. Inspection of Crimped Contact

16. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Insert crimped end of contact onto tip of insertion tool and lay wire in slot of tool. See figure 11.

CAUTION

Damage may occur to contact insertion tool if tilted or rotated when in connector insert.

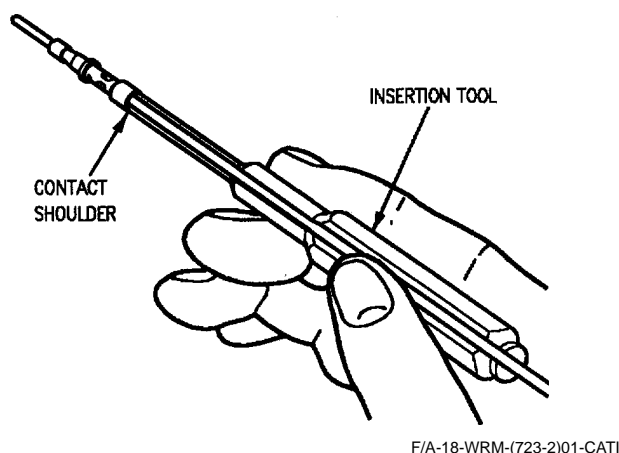


Figure 11. Inserting Contact into Insertion Tool

e. Holding insertion tool and prepared contact at right angle to rear insert face of connector, place contact into correct contact cavity. See figure 12.

f. Apply smooth even axial push on tool keeping contact and tool aligned in cavity until contact is fully seated in connector. Contact retention clip will snap, locking contact in place when seated.

g. Remove insertion tool by sliding straight back along wire insulation until it clears grommet. Contact will remain locked in position.

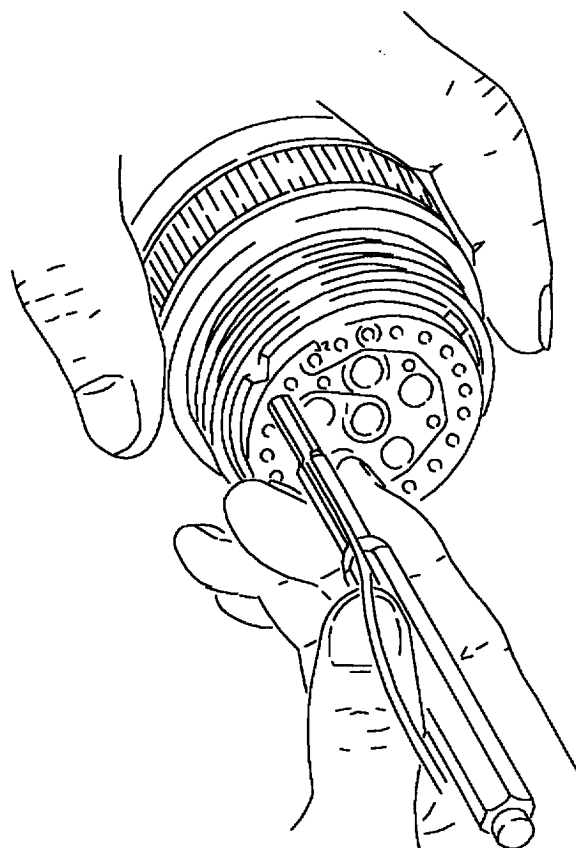


Figure 12. Inserting Contacts into Connector

h. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.

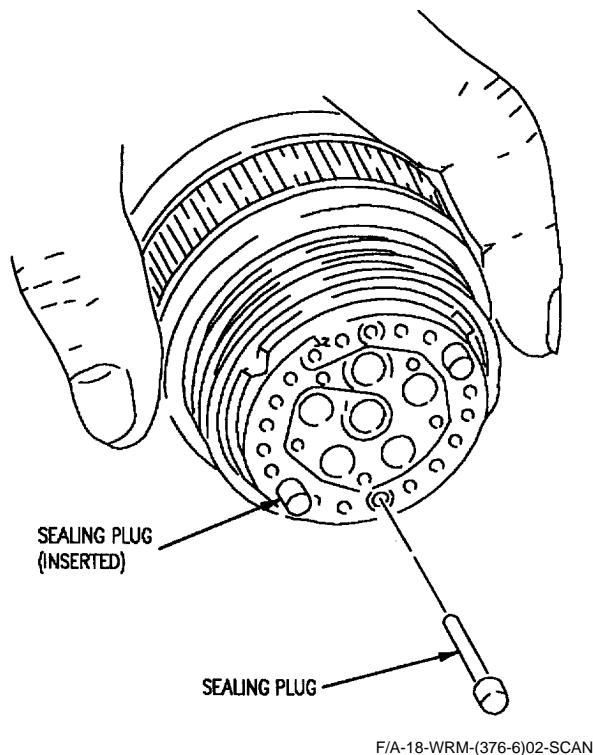


Figure 13. Inserting Sealing Plug(s) into Connector

17. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

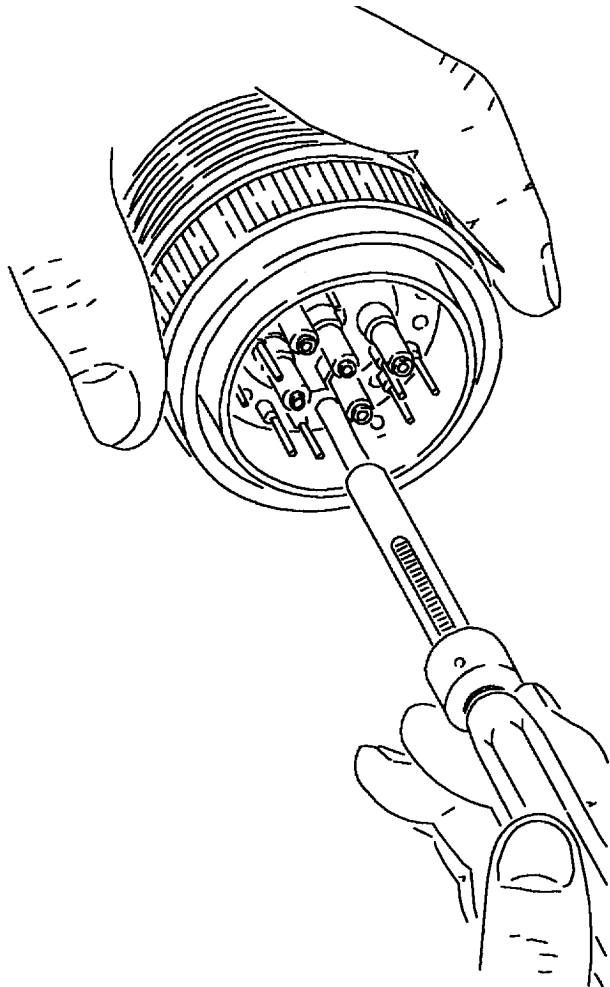
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector face or by dipping tool.

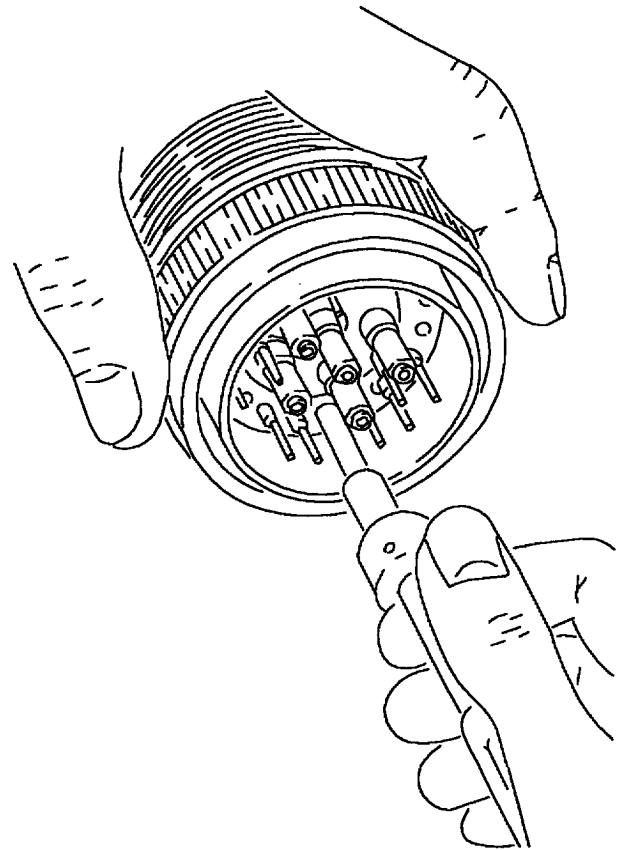
d. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed. See figure 14.



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Figure 14. Unlocking Wired Contact Mechanism

e. Holding removal tool at a right angle to front insert face, push tool straight toward rear of connector, firmly pressing tool to positive stop when it bottoms in insert cavity. See figure 15.



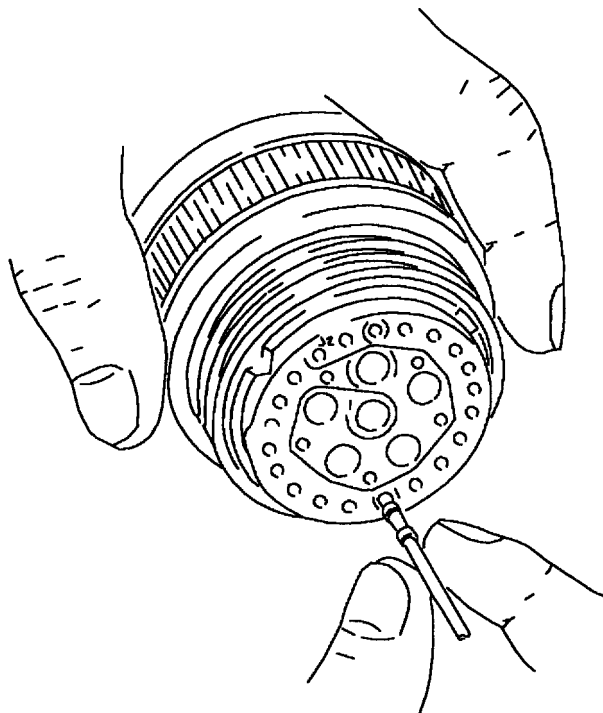
F/A-18-WRM-(376-8)02-SCAN

Figure 15. Removing Wired Contact from Connector

f. Maintain pressure on tool handle and slide collar of tool forward until it stops. Contact shall be partly ejected from rear of connector insert.

g. Remove tool from contact cavity by pulling straight back to clear connector insert face.

h. Remove contact from rear of connector. See figure 16.



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Figure 16. Extracting Wired Contact from Connector

18. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

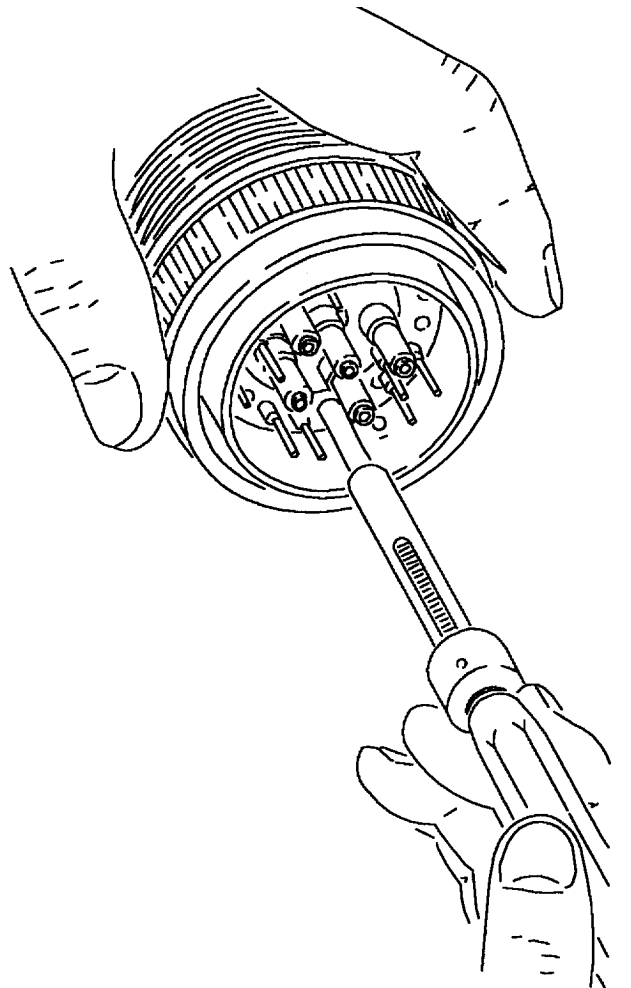
c. Remove sealing plug from contact cavity of unwired contact to be removed.



Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector face or by dipping tool.

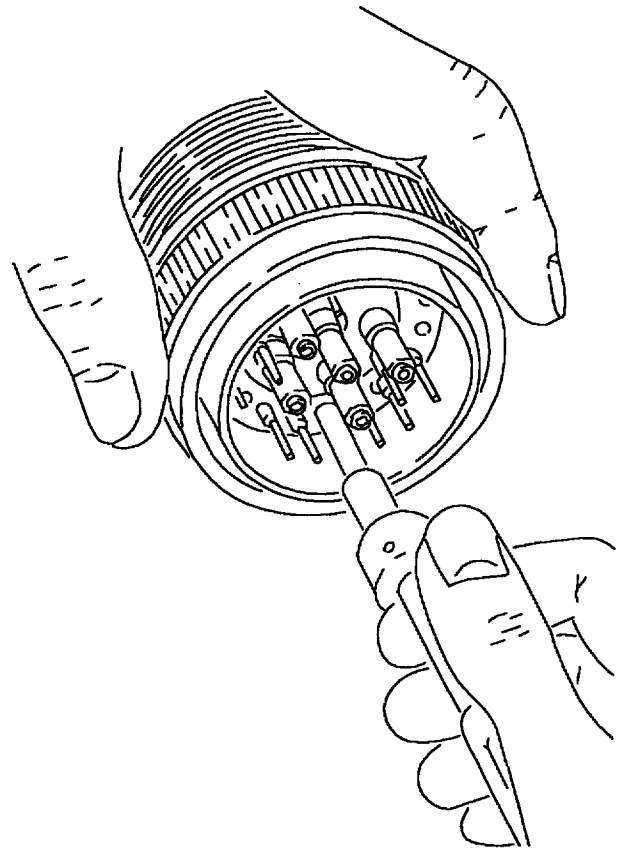
e. Align unwired contact removal tool at right angle to the forward face of connector. Push tool over unwired contact until tool tip butts against shoulder. See figure 17.



F/A-18-WRM-(376-7)02-SCAN

Figure 17. Unlocking Unwired Contact Mechanism

f. Firmly push tool on contact until probe is inserted. See figure 18.



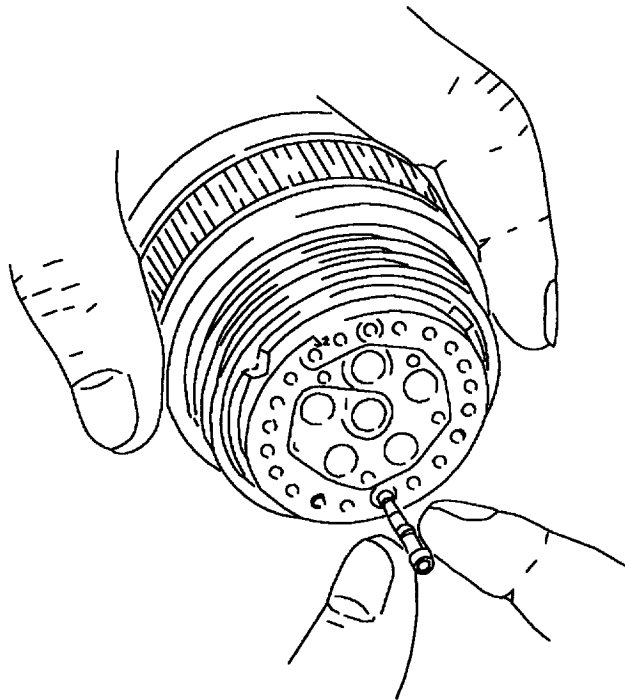
F/A-18-WRM-(376-8)02-SCAN

Figure 18. Removing Unwired Contact from Connector

g. Maintain pressure on tool handle and push plunger knob forward to eject contact partly from rear of connector insert.

h. Remove tool from contact cavity by pulling straight back from connector to clear insert face.

i. Remove contact from rear of connector. See figure 19.



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Figure 19. Extracting Unwired Contact from Connector

19. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

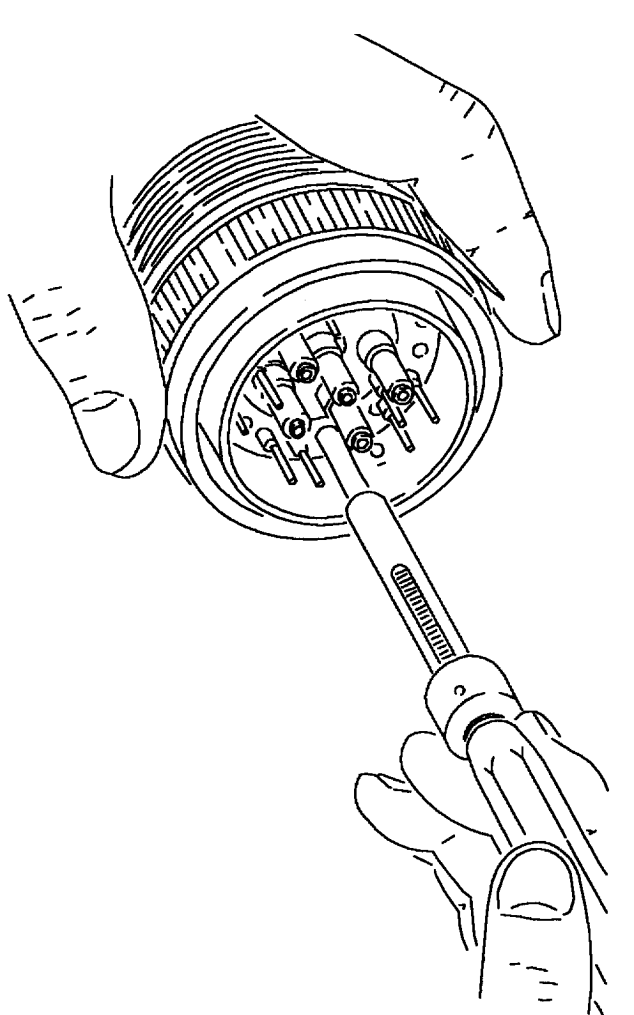
c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

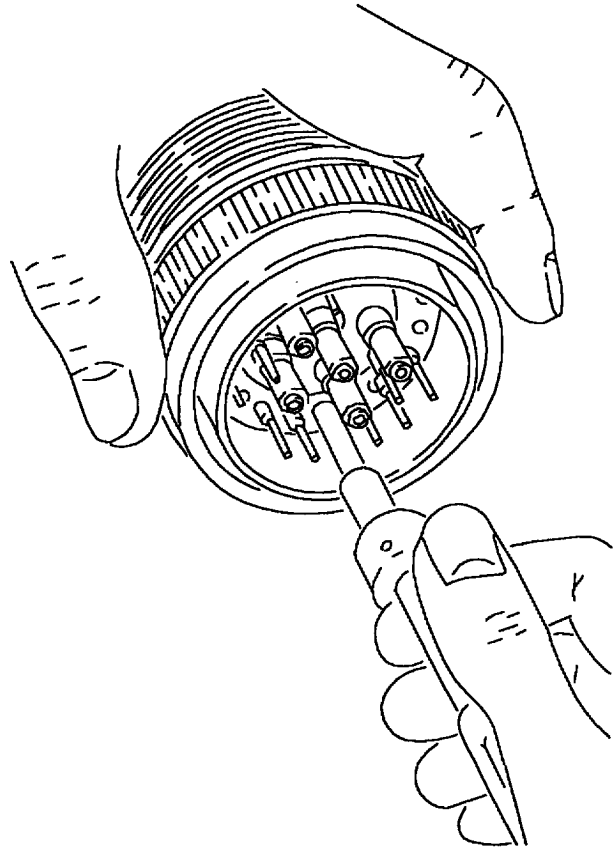
e. Align unwired contact removal tool at right angle to the forward face of connector. Push tool over contact until tool tip butts against shoulder. See figure 20.



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Figure 20. Unlocking Broken Wire Contact Mechanism

f. Slowly push unwired removal tool straight into connector insert until probe bottoms to release contact retention mechanism. See figure 21.



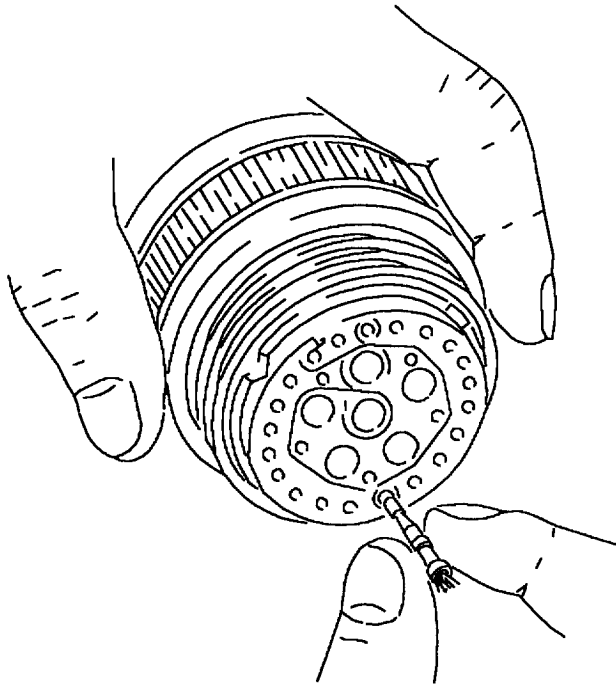
F/A-18-WRM-(376-8)02-SCAN

Figure 21. Removing Broken Wire Contact from Connector

g. Maintain pressure on tool handle while gently and slowly pushing plunger knob forward. Broken wire and contact shall be partly ejected at rear of connector insert.

h. Remove tool from connector insert by pulling straight back from connector to clear insert face.

i. Remove contact and broken wire from rear of connector. See figure 22.



F/A-18-WRM-(376-10)02-SCAN

Figure 22. Extracting Broken Wire Contact from Connector

20. COAX REPAIR PROCEDURES.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

21. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

22. DISTANCE ADJUSTMENT.

a. Measure distance between blades. See figure 23.

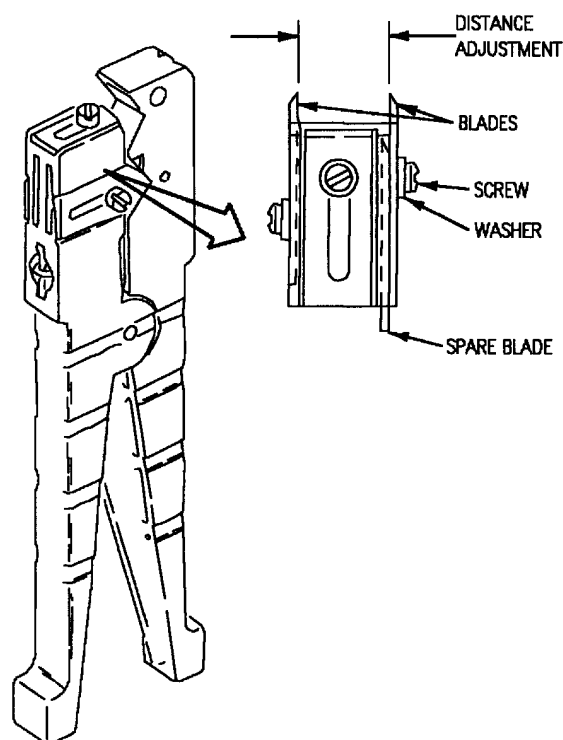
b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades 3/64-inch.

c. Install screws and tighten handtight.

d. Adjust depth of cut.



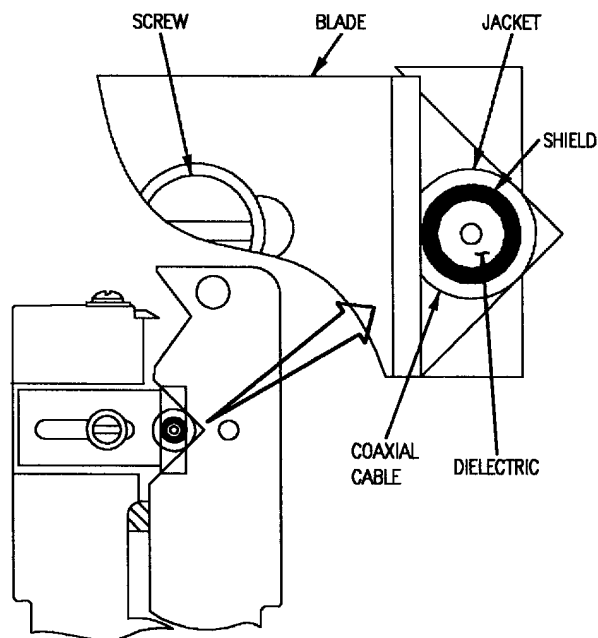
F/A-18-WRM-(409-2)01-SCAN

Figure 23. Distance Adjustment**23. CUT ADJUSTMENT.****NOTE**

A test strip should be done on spare coax before stripping coax to be used.

a. Position coaxial cable in stripper until the end butts against the blade. See figure 24.

b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



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Figure 24. Jacket Cut Adjustment

c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 25.

d. Adjust blade so it cuts through shield without damaging dielectric.

e. If required, repeat steps 23a through 23d until blades cut through jacket and shield without damaging shield and dielectric.

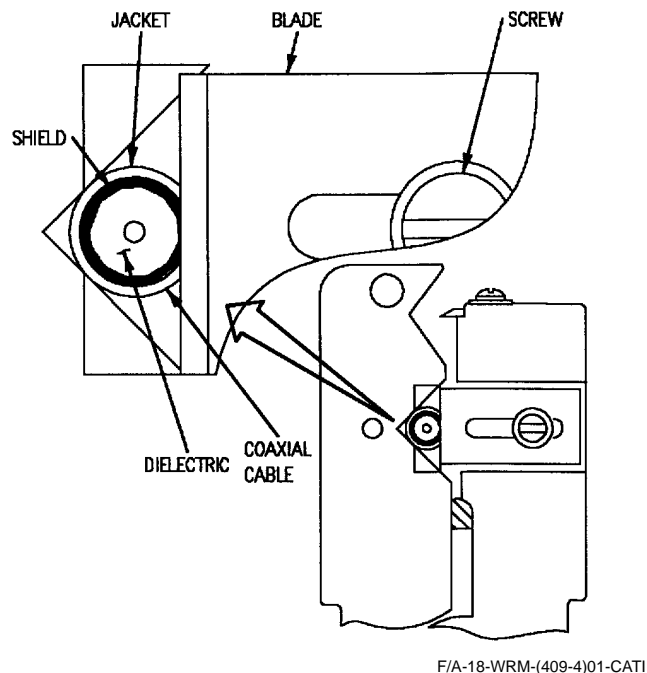


Figure 25. Shield Cut Adjustment

24. USE.

a. Position stripper on cable so that blades face down. See figure 26.

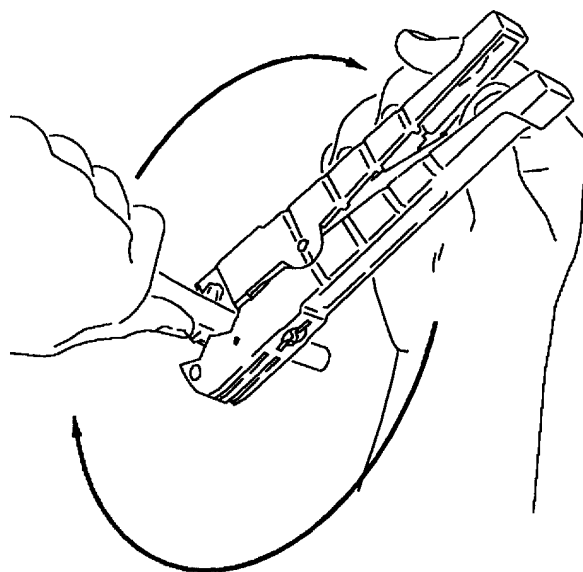
NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.

c. Remove stripper from cable.

d. Remove stripped jacket and shield.



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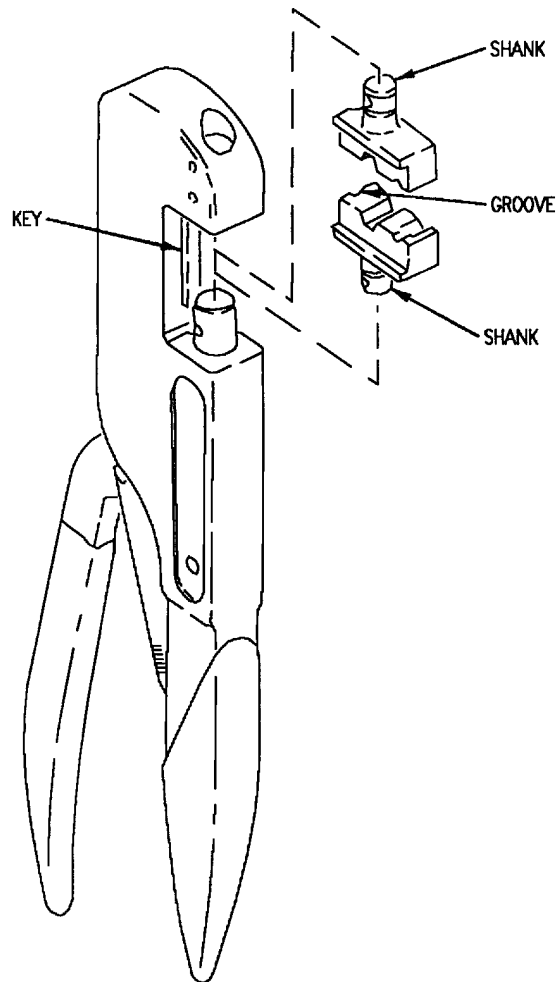
Figure 26. Operation

25. CRIMP TOOL M22520/5-01 ASSEMBLY AND USE.

26. DIE INSTALLATION.

a. Align groove in die with key in crimping tool and push shank of die into hole.

b. Close handle to make sure dies are correctly seated and locked in place. See figure 27.



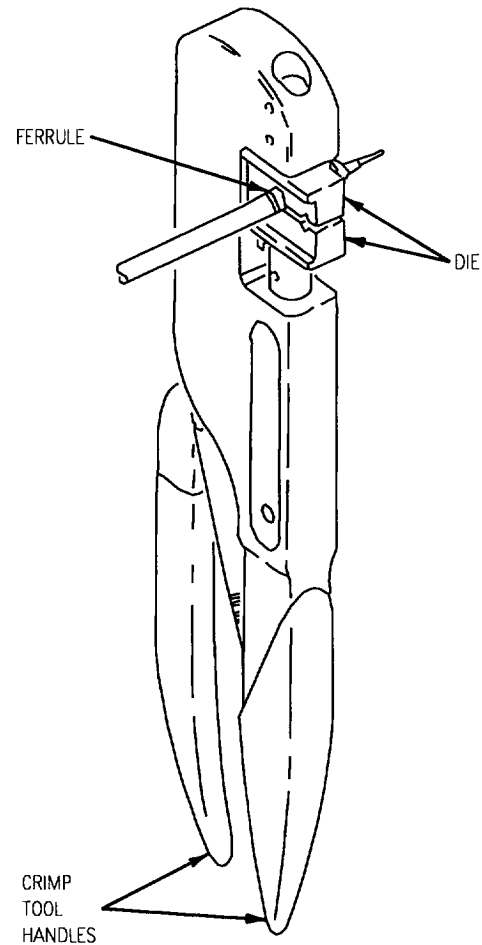
F/A-18-WRM-(410-2)01-SCAN

Figure 27. Die Installation**27. CRIMP PROCEDURE.**

a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 28.

b. Squeeze tool handles until ratchet releases.

c. Open handles and remove ferrule assembly and inspect crimp.



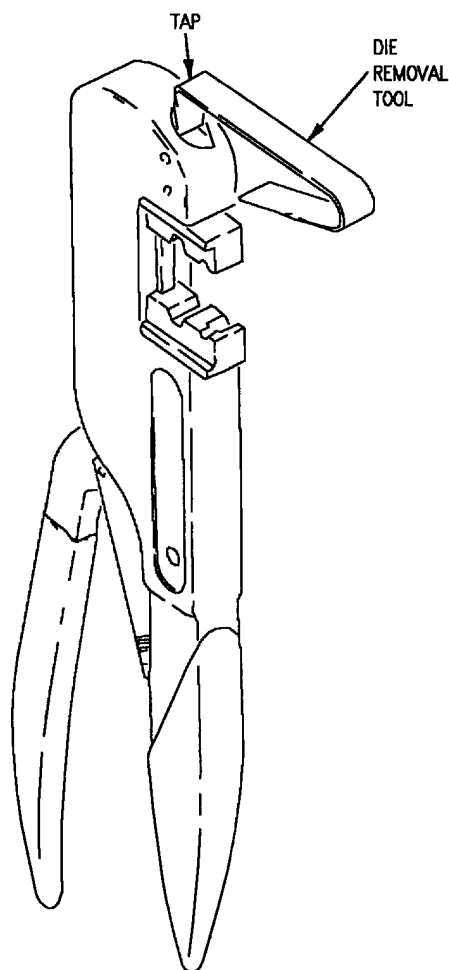
F/A-18-WRM-(410-1)01-CATI

Figure 28. Crimp Positioning

28. **DIE REMOVAL.****NOTE**

Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

- a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 29.

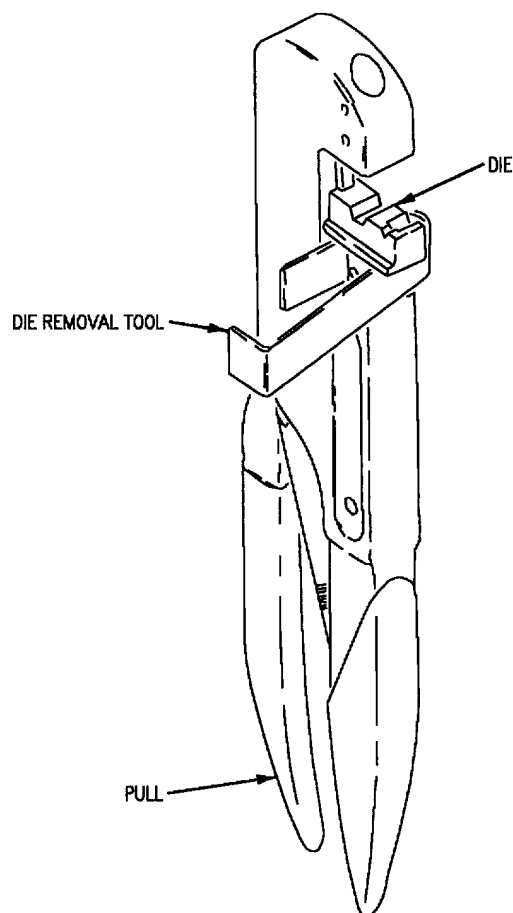


F/A-18-WRM-(410-3)01-SCAN

Figure 29. Upper Die Removal

- b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

- c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 30.



F/A-18-WRM-(410-4)01-SCAN

Figure 30. Lower Die Removal

- d. Pull handle open with snap action. The die will be released from the lock spring and can then be removed by hand.

29. INSERTION OF COAXIAL CONTACT INTO CONNECTOR.

- a. If backshell requires disassembly, do the sub-steps below:

- (1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 3 Tool Data For Coax Contact in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

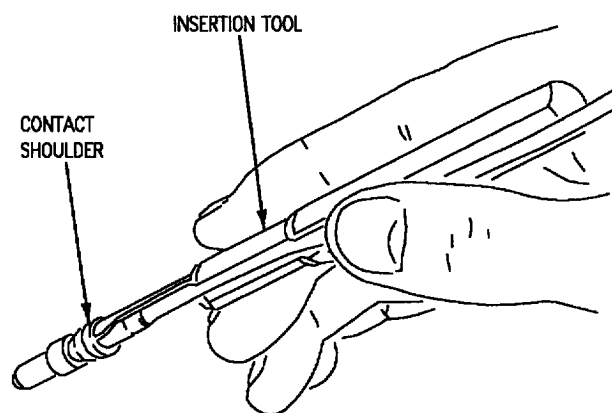
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 31.

CAUTION

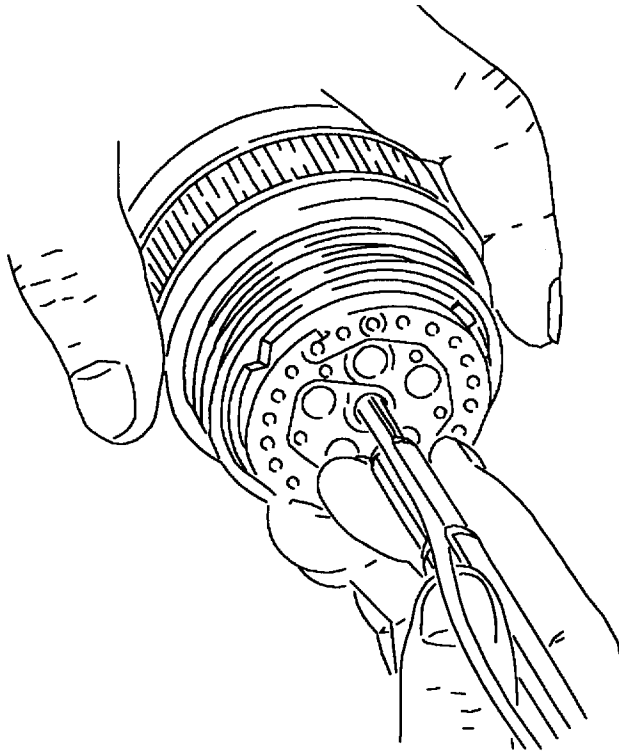
Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(375-1)02-SCAN

Figure 31. Inserting Coaxial Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 32.

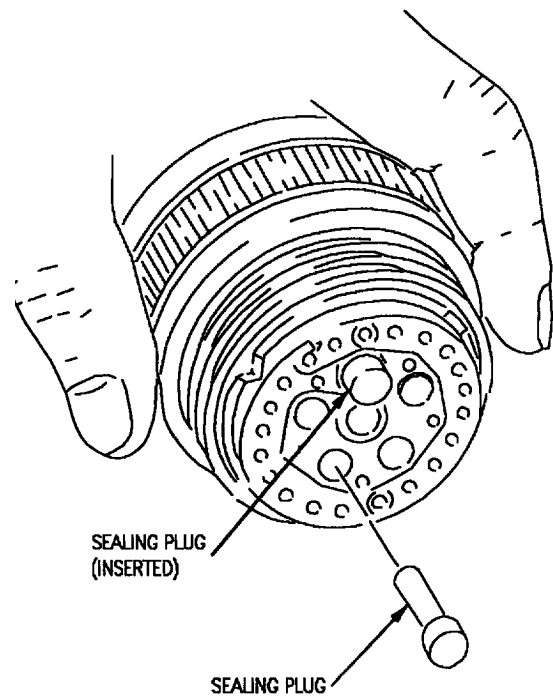


F/A-18-WRM-(376-1)02-SCAN

Figure 32. Inserting Coaxial Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 33.



F/A-18-WRM-(376-2)02-SCAN

Figure 33. Inserting Sealing Plug(s) into Coaxial Connector

30. COAXIAL CONTACT REMOVAL FROM CONNECTOR.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 3 Tool Data For Coax Contact in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector face or by dipping tool.

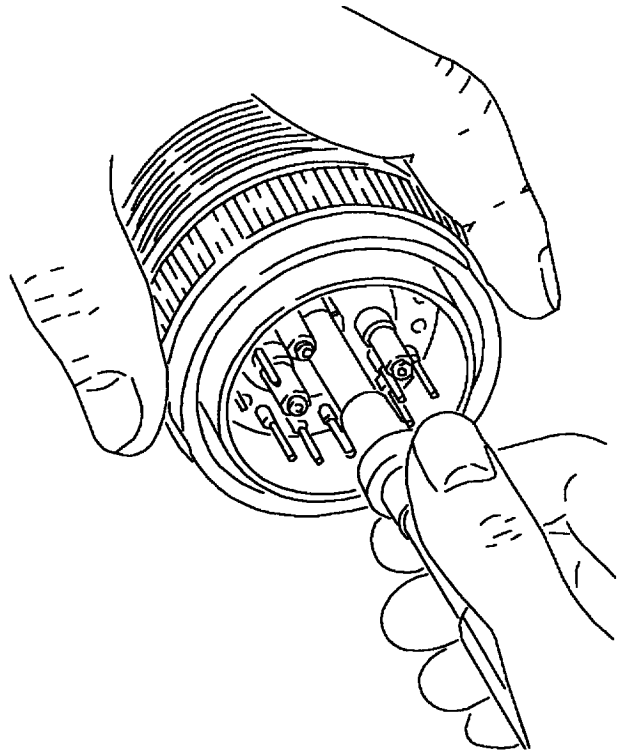
d. Working from front (mating end) of connector, slide hollow end of removal tool over contact to be removed. See figure 34.

e. Holding removal tool at a right angle to front insert face, push tool straight toward rear of connector, firmly pressing tool to positive stop when it bottoms in insert cavity.

f. Maintain pressure on tool handle and slide collar of tool forward until it stops. Contact shall be partly ejected from rear of connector insert.

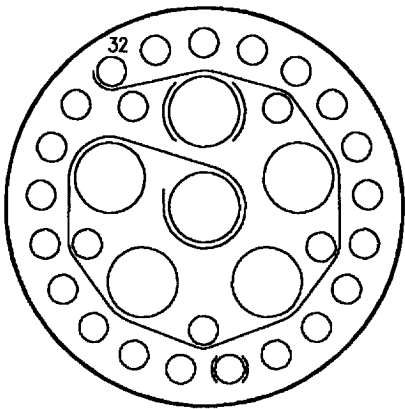
g. Remove tool from contact cavity by pulling straight back to clear connector insert face.

h. Remove contact from rear of connector.



F/A-18-WRM-(376-3)02-SCAN

Figure 34. Removing Coaxial Contact from Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(331-1)02-CATI

Reference Designation to Backshell Data Index for MS24266R22B32PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
64P-E001Q	MS27291-6	080 00

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Turret Head (Red)	M22520/1-02
Insertion Tool	M81969/17-03
Removal Tool	M81969/19-07
Removal Tool (Unwired)	M81969/19-07

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
3, 5, 7, 9 AND 11 THRU 32	5/32	M39029/31-241	MS31187-20-2

Figure 35. MS24266R22B32PN Connector (Sheet 1)

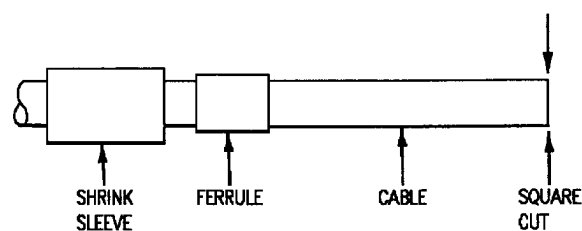
Table 1. Tool Data For Coaxial Contact

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner (Center Contact)	K74S
Crimping Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	M22520/5-03 Closure A
Insertion Tool	M81969/17-05
Removal Tool	M81969/19-09
Removal Tool (Unwired)	M81969/19-09

Table 2. Contact Data For Coaxial Contact

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1, 2, 4, 6, 8 and 10	See figure 36	48-1226-02	MS27488-12

a. Cut cable end square with end cutters. Slide shrink sleeve and ferrule onto cable and out of way as shown.

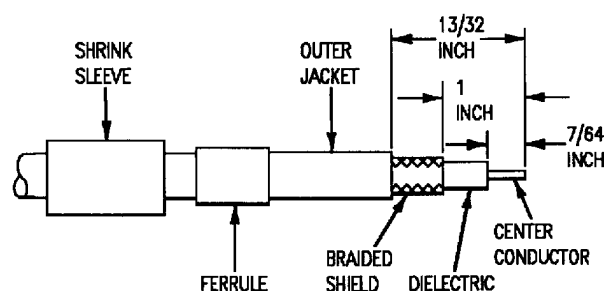


F/A-18-WRM-(332-1)02-CATI



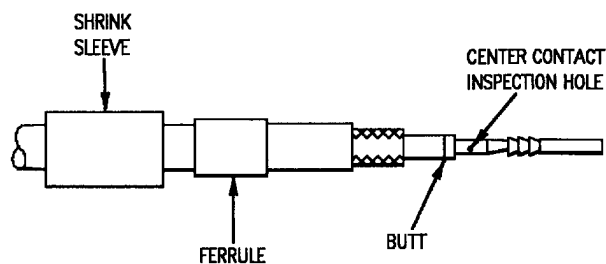
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible.

b. Using cable stripper 45-163 strip outer jacket and braided shield. Using sharp knife strip insulation from center conductor as shown.



F/A-18-WRM-(332-2)02-CATI

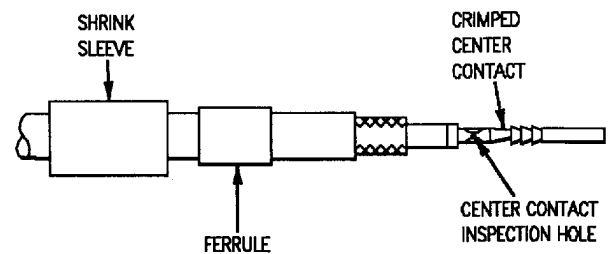
c. Insert center conductor into center contact and butt as shown. Center conductor shall be visible in contact inspection hole.



F/A-18-WRM-(332-3)02-CATI

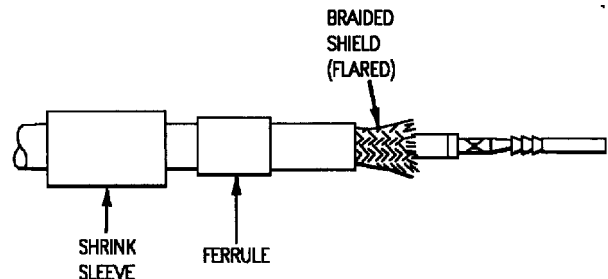
Figure 36. M24266R22B32PN Coaxial Assembly Procedure (Sheet 1)

d. Crimp center contact using M22520/2-01 Crimping Tool and K74S Positioner. Make sure center conductor is still visible in contact inspection hole.



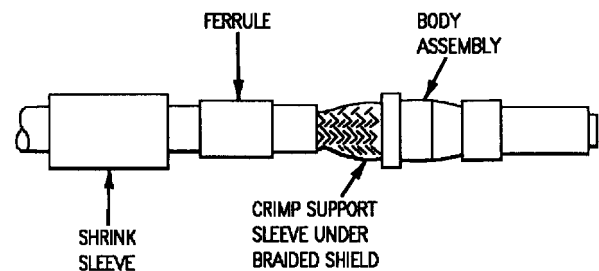
F/A-18-WRM-(332-4)02-CATI

e. Slightly flare out braided shield as shown to accept crimp support sleeve of outer contact.



F/A-18-WRM-(332-5)02-CATI

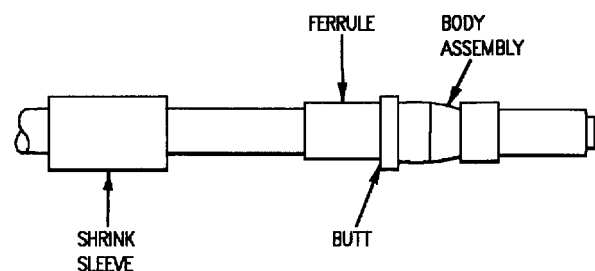
f. Insert center contact and cable assembly into body assembly and slide crimp support sleeve of body assembly under flared braided shield as shown.



F/A-18-WRM-(332-6)02-CATI

g. Insert center contact into body assembly until it locks in position. Make sure contact is locked in place by gently pulling on cable.

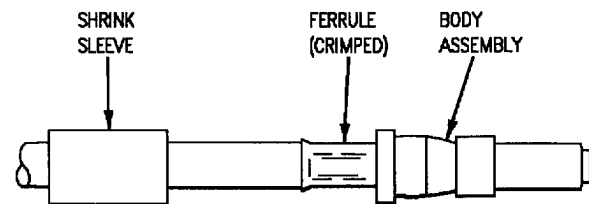
h. Slide ferrule from cable over braided shield to butt shoulder of body assembly as shown.



F/A-18-WRM-(332-7)02-CATI

Figure 36. M24266R22B32PN Coaxial Assembly Procedure (Sheet 2)

i. Crimp ferrule using M22520/5-01 crimping tool and MS22520/5-03 die set, Closure A.



F/A-18-WRM-(332-8)02-CATI

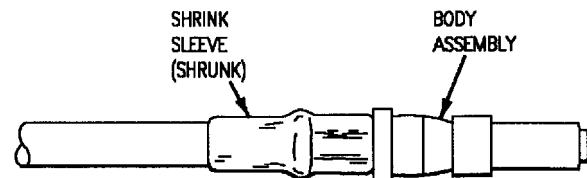
j. Slide shrink sleeve forward until it butts ferrule.

WARNING

To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

k. Shrink sleeve using heat tool and nitrogen servicing unit.



F/A-18-WRM-(332-9)02-CATI

Figure 36. M24266R22B32PN Coaxial Assembly Procedure (Sheet 3)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****0N089560-1****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

Reference Designation to
Figure Number IndexReference
Designation

Figure No.

78P-E003

34

Support Equipment Required

Part Number or
Type Designation

Nomenclature

3308AS100

Repair Set-Wire and
Connector

1. DESCRIPTION.

2. The 0N089560-1 electrical connector is a rectangular, spring loaded, bushing mounted, rack and panel-type connector with friction coupling. This connector can withstand operating temperatures from -60°C to +125°C and uses rear insertion and removal-type contacts. The wire and coaxial contacts are crimped. The complete connector assembly consists of a rectangular shell with resilient insert to accept four no. 16 wire socket contacts 25 no. 20 wire socket contacts, and eight coaxial socket contacts.

Materials Required

Specification
or Part Number

Nomenclature

TT-I-735 GRADE B

Isopropyl Alcohol



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

3. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

4. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

5. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

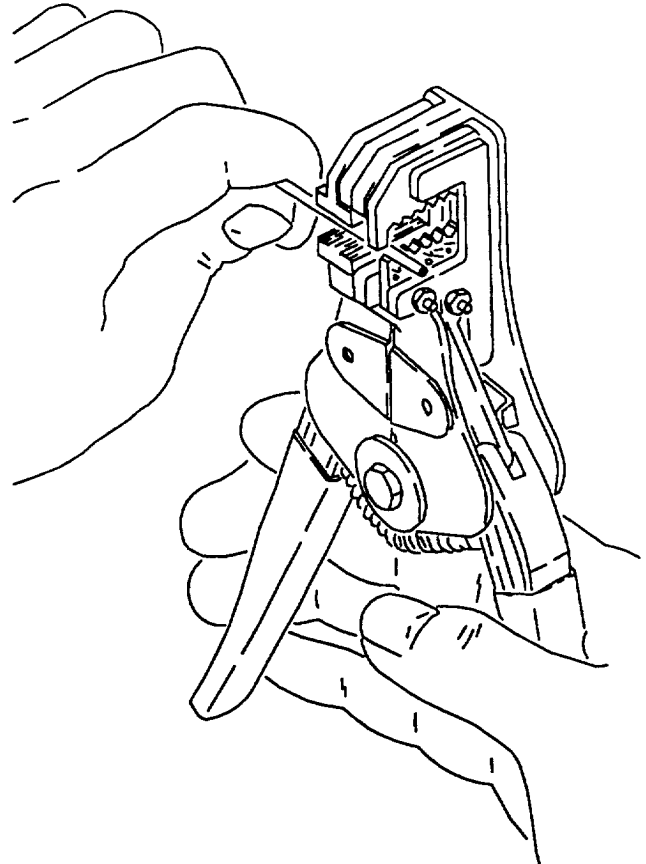
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

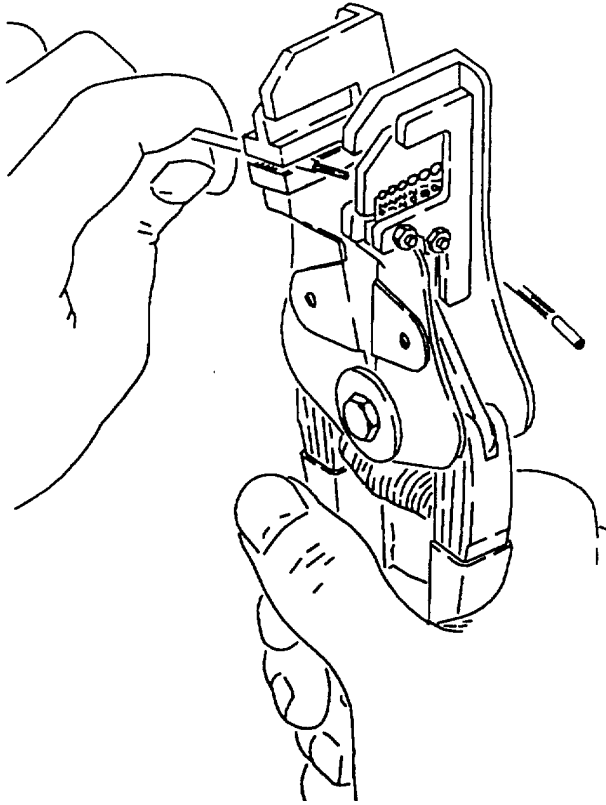
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.



F/A-18-WRM-(401-1)01-SCAN

Figure 1. Placing Wire in Slot of Stripping Tool

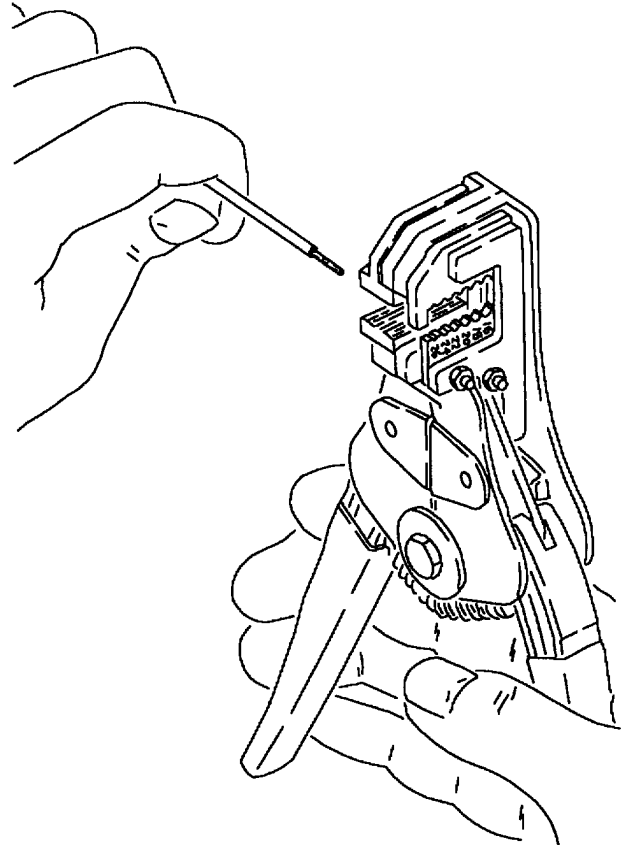
e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.



F/A-18-WRM-(403-1)01-SCAN

Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.

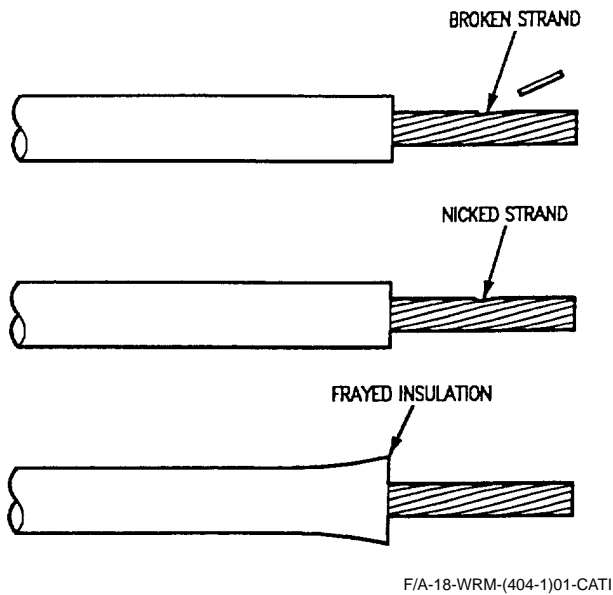


Figure 4. Unacceptable Conditions

6. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

7. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

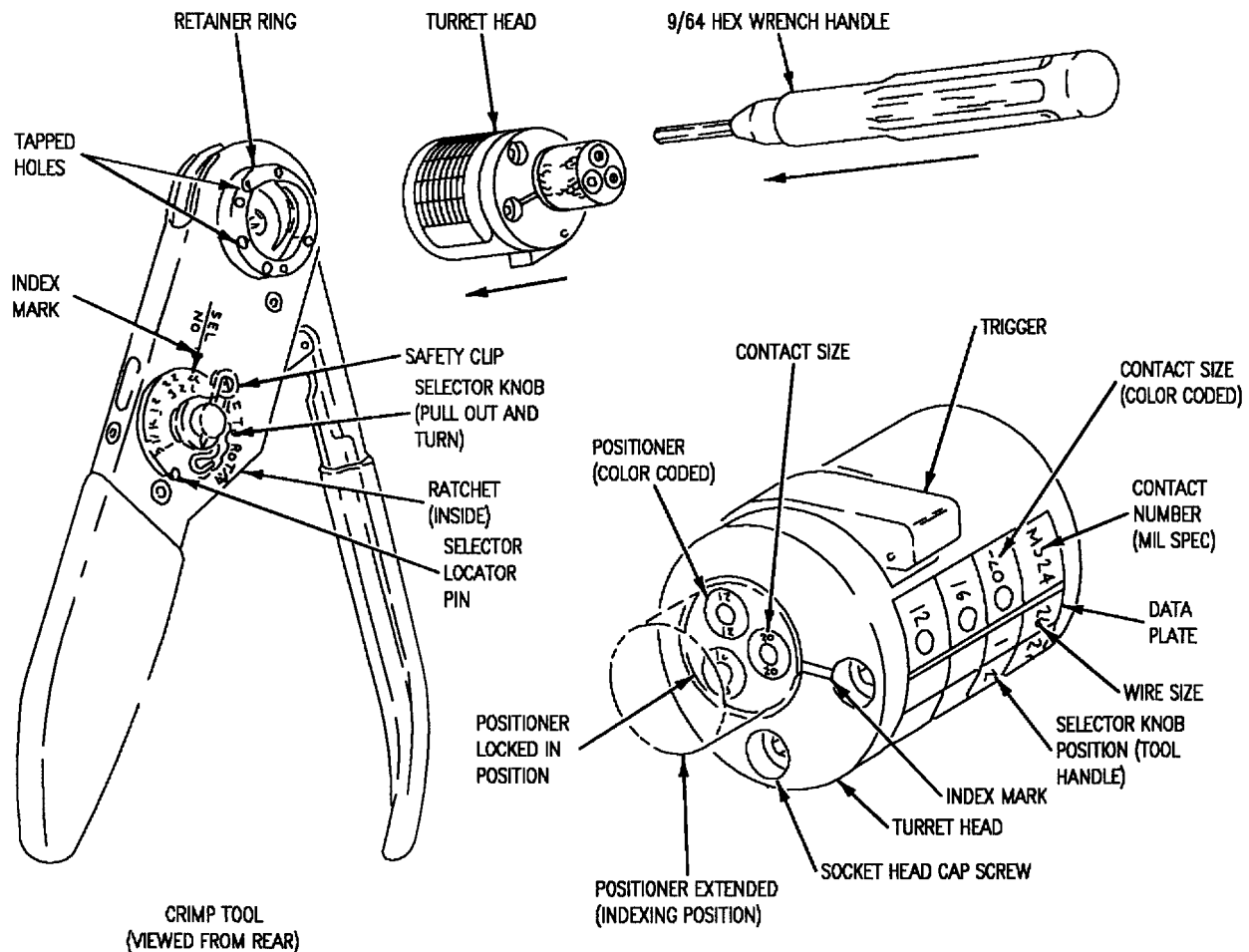
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 5.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 5. M22520/1-01 Crimp Tool Handle and Turret Head

8. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

9. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

10. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 3 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

11. REMOVAL AND INSTALLATION OF POSITIONER.

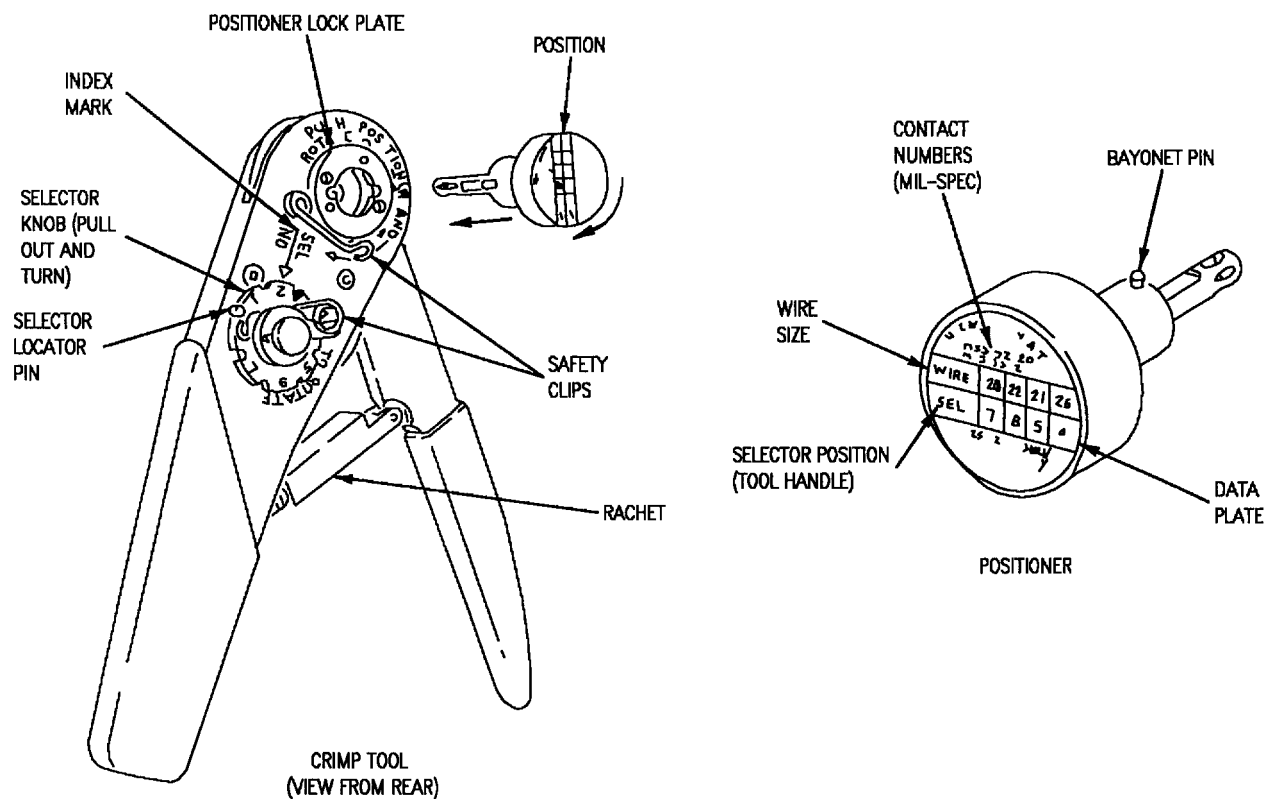
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 6.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 6. M22520/2-01 Crimp Tool Handle and Positioner

12. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

c. Install safety clip.

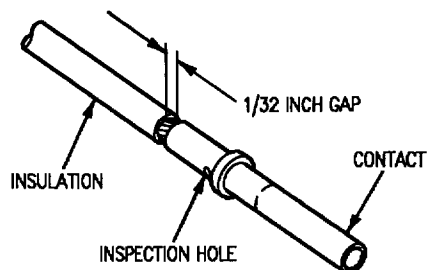
13. CONTACT CRIMPING.**CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Select correct contact specified in table 2 for affected connector part number.

b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.

c. Visually inspect gap dimension between contact and insulation as shown in figure 7.



F/A-18-WRM-(406-2)01-CAT1

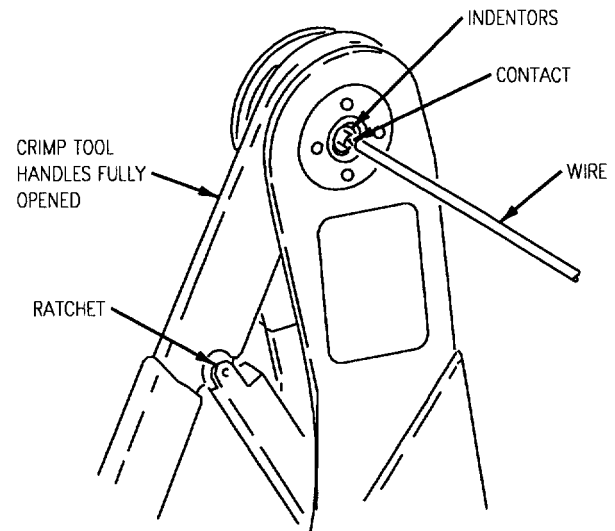
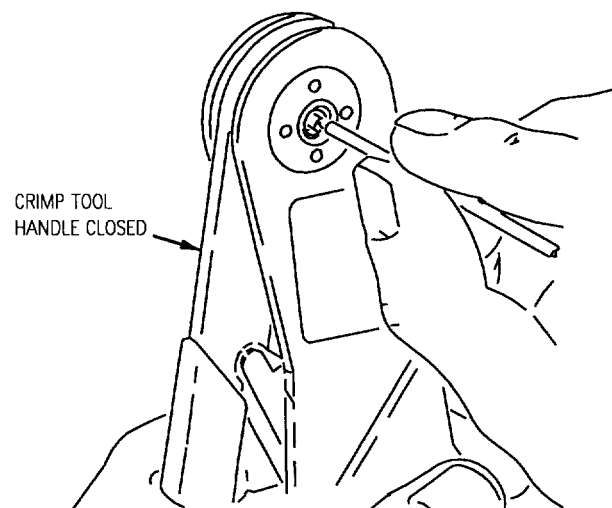
Figure 7. Strip Gap Check

d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 8, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 8, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)**DETAIL A****DETAIL B**

F/A-18-WRM-(407-1)01-CAT1

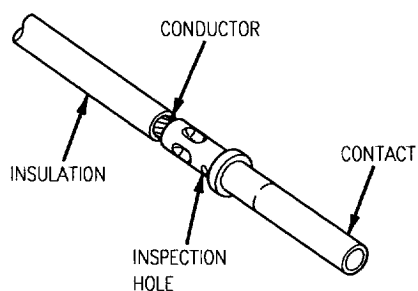
Figure 8. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 9.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(408-2)01-CATI

Figure 9. Inspection of Crimped Contact

14. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

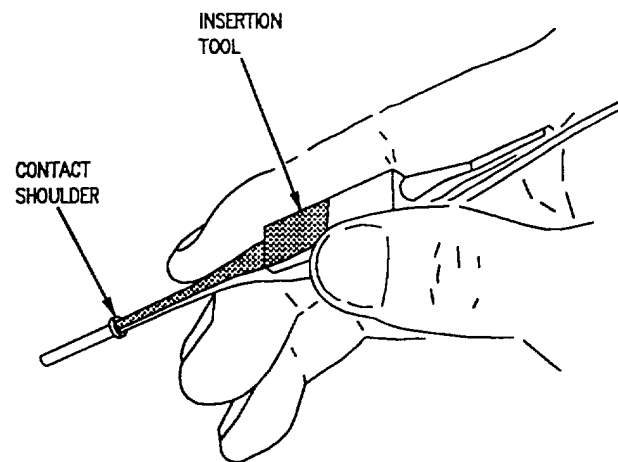
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 10.



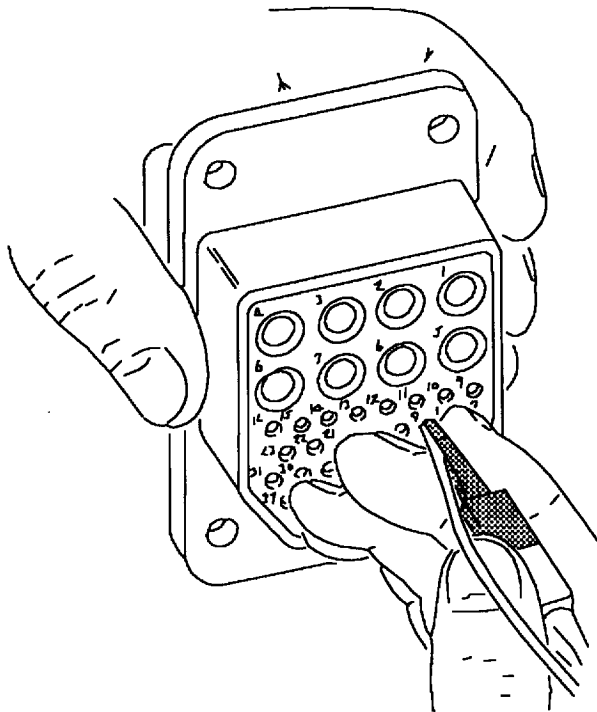
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 10. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention times snap into place behind contact shoulder. See figure 11.

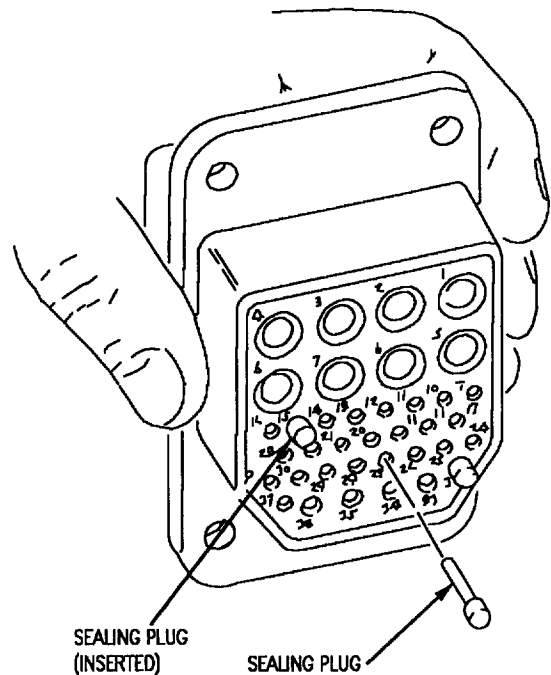


F/A-18-WRM-(600-15)02-CAT1

Figure 11. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing boot, small diameter first, until it bottoms against contact cavity. See figure 12.



F/A-18-WRM-(600-1)02-CAT1

Figure 12. Inserting Sealing Plug(s) into Connector

15. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

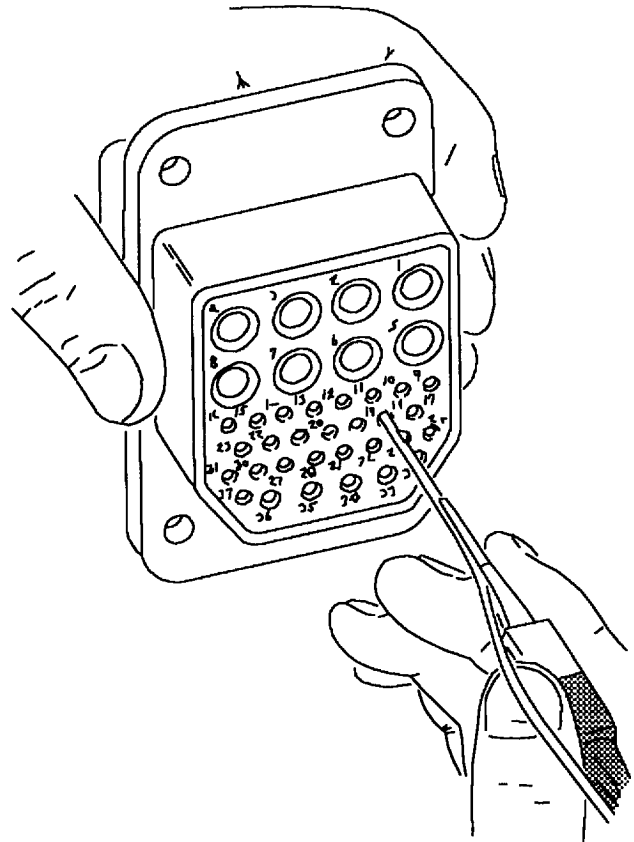
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

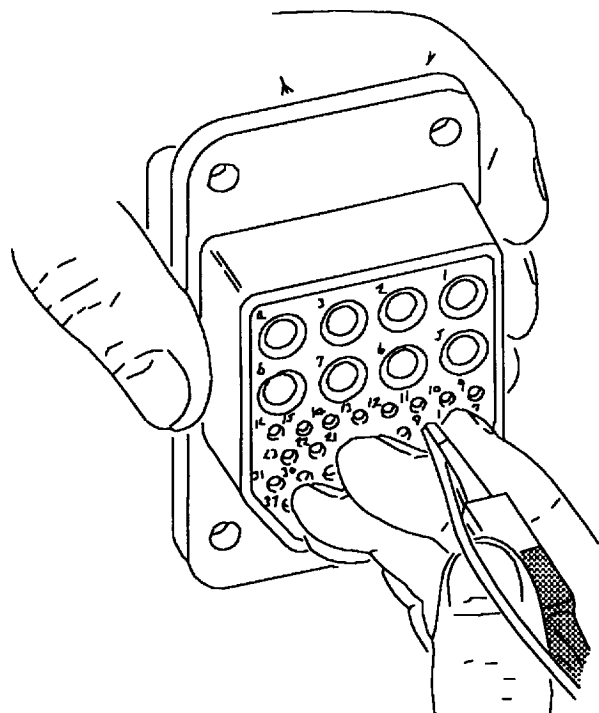
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 13.



F/A-18-WRM-(600-2)02-CATI

Figure 13. Removal Tool on Wire

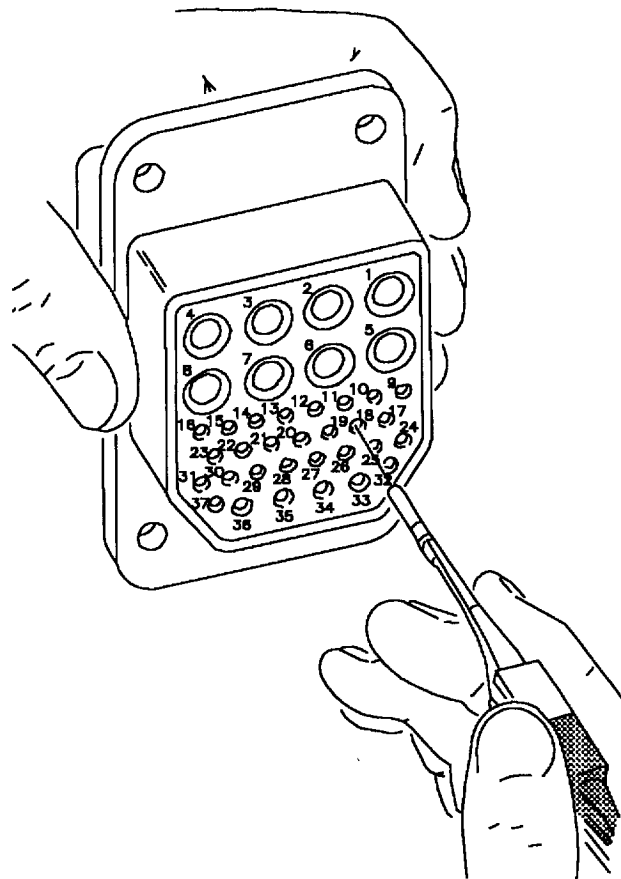
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 14.



F/A-18-WRM-(600-3)02-CATI

Figure 14. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 15.



F/A-18-WRM-(600-4)02-CATI

Figure 15. Removing Contact from Connector

16. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

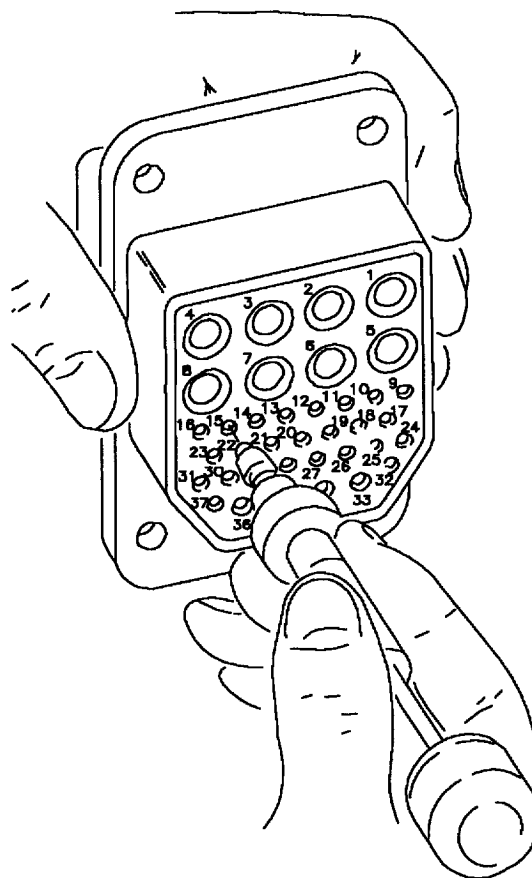
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

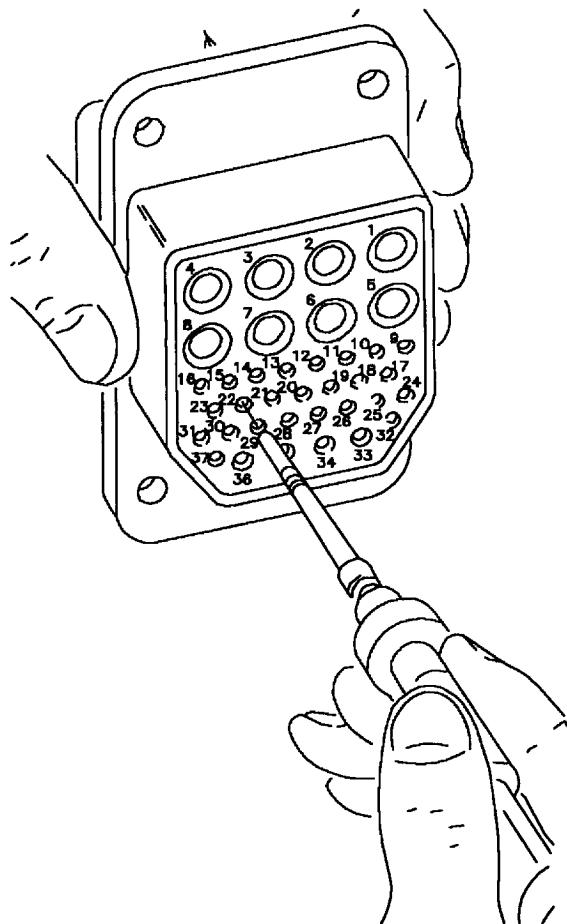
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 16.



F/A-18-WRM-(600-5)02-CATI

Figure 16. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 17.



F/A-18-WRM-(600-6)02-CAT1

Figure 17. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

17. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

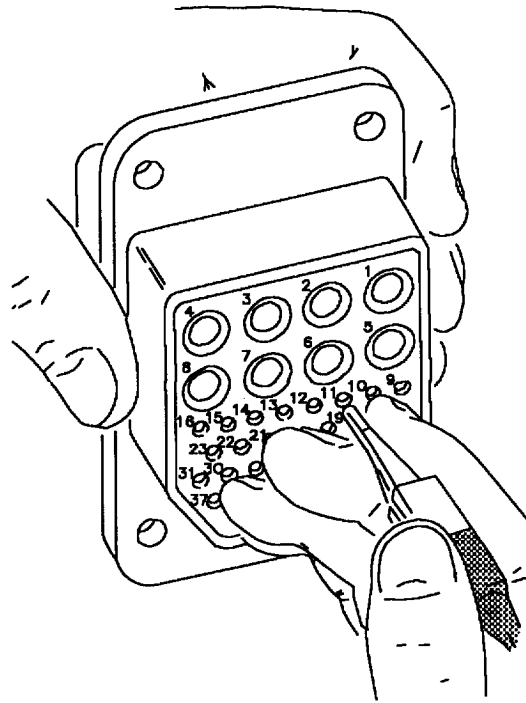
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/16 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 18.



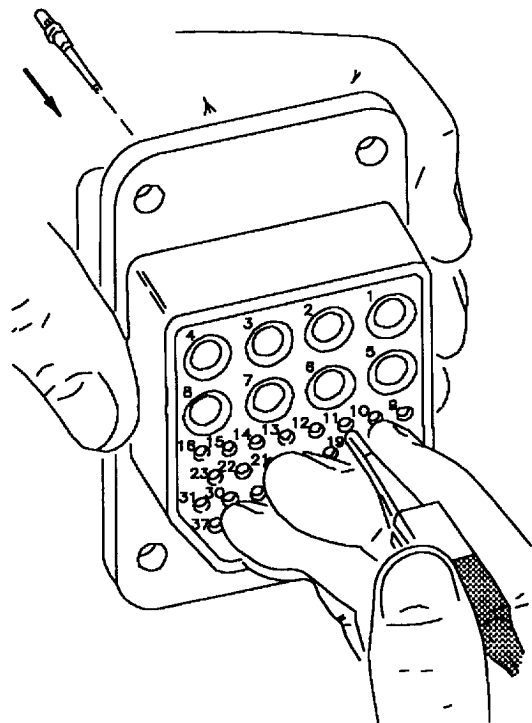
F/A-18-WRM-(600-7)02-CAT1

Figure 18. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 19.



F/A-18-WRM-(600-8)02-CAT I

Figure 19. Broken Wire Contact Removal

18. COAX REPAIR PROCEDURES.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

19. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

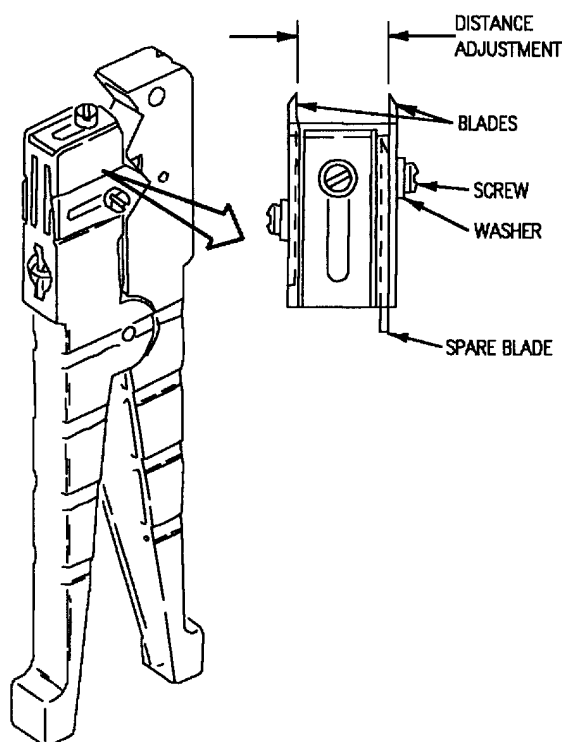
20. DISTANCE ADJUSTMENT.

- a. Measure distance between blades. See figure 20.
- b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades 3/64-inch.

- c. Install screws and tighten handtight.
- d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

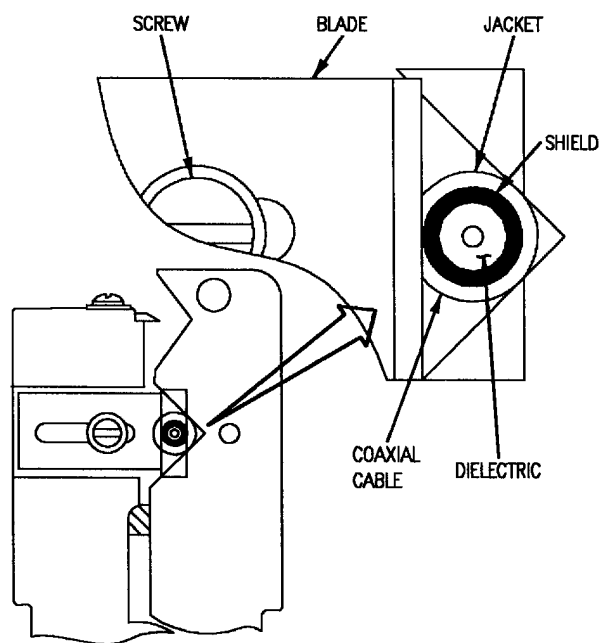
Figure 20. Distance Adjustment

21. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare coax before stripping coax to be used.

- a. Position coaxial cable in stripper until the end butts against the blade. See figure 21.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



F/A-18-WRM-(409-3)01-CAT1

Figure 21. Jacket Cut Adjustment

c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 22.

d. Adjust blade so it cuts through shield without damaging dielectric.

e. If required, repeat steps 21a through 21d until blades cut through jacket and shield without damaging shield and dielectric.

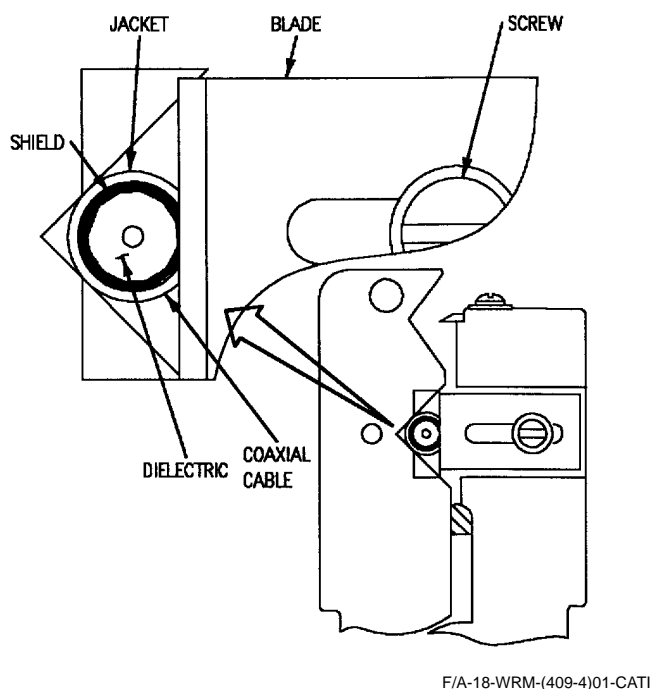


Figure 22. Shield Cut Adjustment

22. USE.

a. Position stripper on cable so that blades face down. See figure 23.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.

c. Remove stripper from cable.

d. Remove stripped jacket and shield.

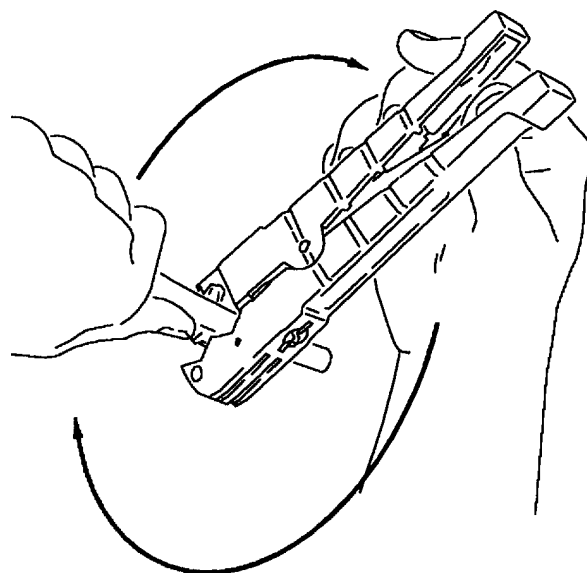


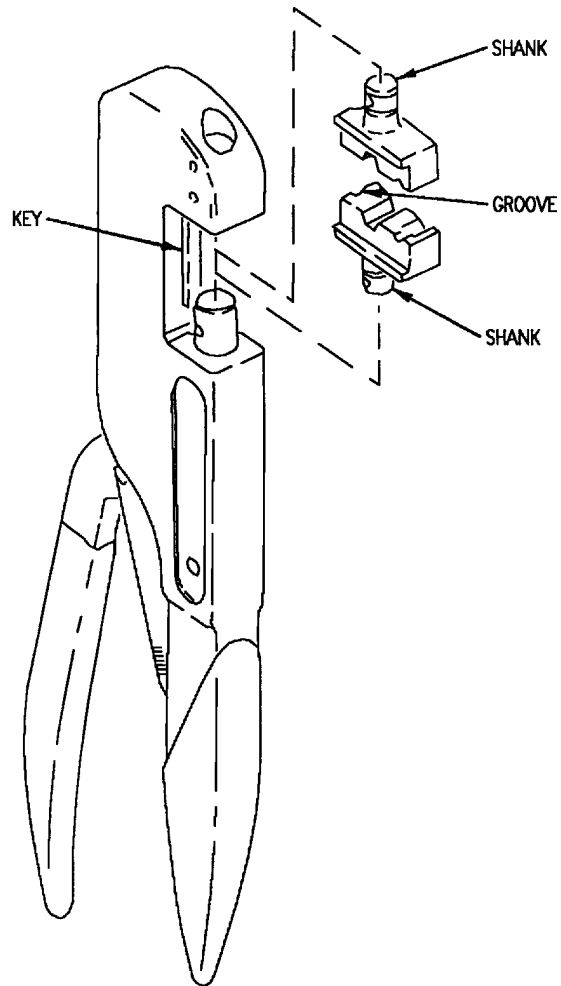
Figure 23. Operation

23. CRIMP TOOL M22520/5-01 ASSEMBLY AND USE.

24. DIE INSTALLATION.

a. Align groove in die with key in crimping tool and push shank of die into hole.

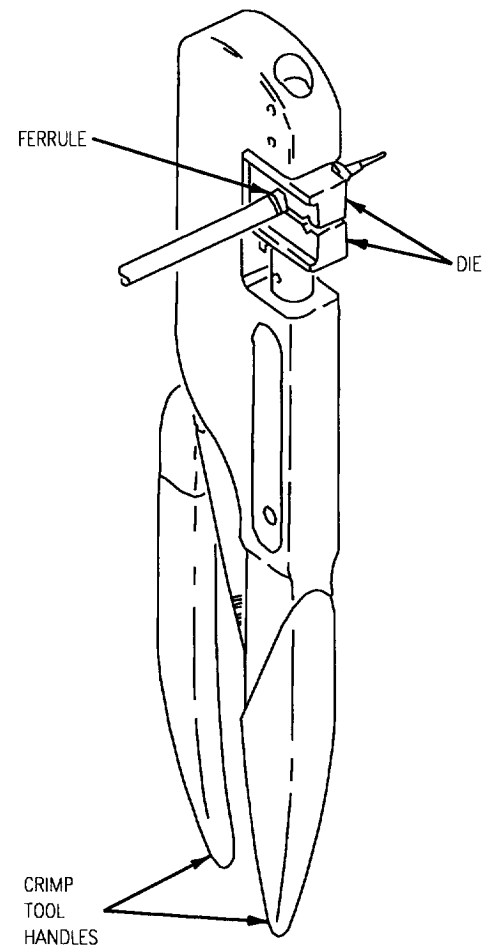
b. Close handle to make sure dies are correctly seated and locked in place. See figure 24.



F/A-18-WRM-(410-2)01-SCAN

Figure 24. Die Installation**25. CRIMP PROCEDURE.**

a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 25.



F/A-18-WRM-(410-1)01-CATI

Figure 25. Crimp Positioning

b. Squeeze tool handles until ratchet releases.

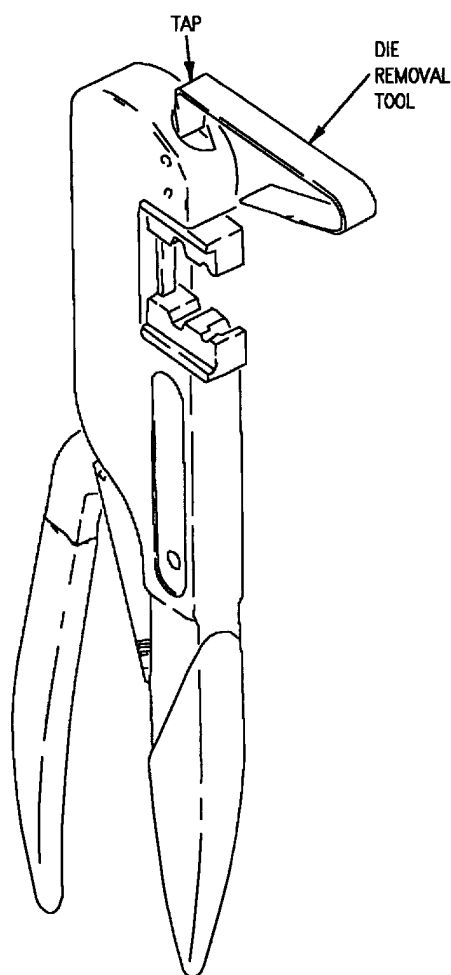
c. Open handles and remove ferrule assembly and inspect crimp.

26. DIE REMOVAL.

NOTE

Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 26.

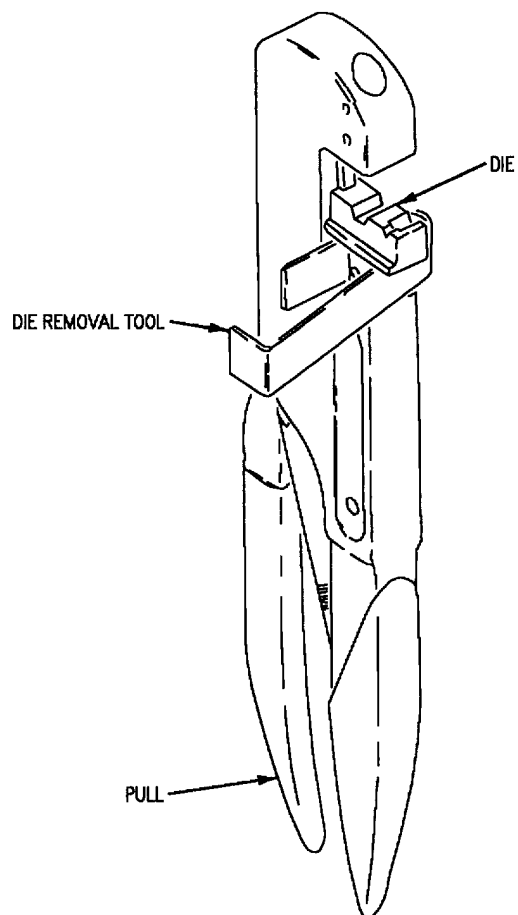


F/a-18-WRM-(410-3)01-SCAN

Figure 26. Upper Die Removal

b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 27.



F/A-18-WRM-(410-4)01-SCAN

Figure 27. Lower Die Removal

d. Pull handle open with snap action. The die will be released from the lock spring and can be removed by hand.

27. INSERTION OF COAXIAL CONTACT INTO CONNECTOR.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 3 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

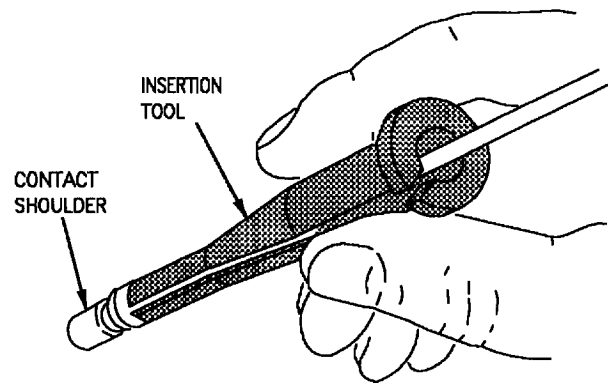
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact solder. See figure 28.

CAUTION

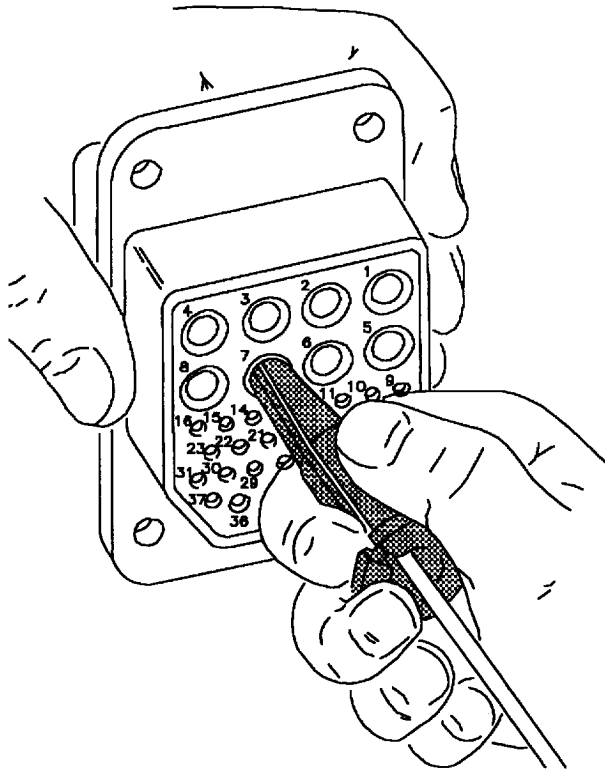
Damage may occur to contact removal tool if tilted or rotated when in connector insert.



F/A-18-WRM-(600-9)02-CAT1

Figure 28. Inserting Coaxial Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 29.

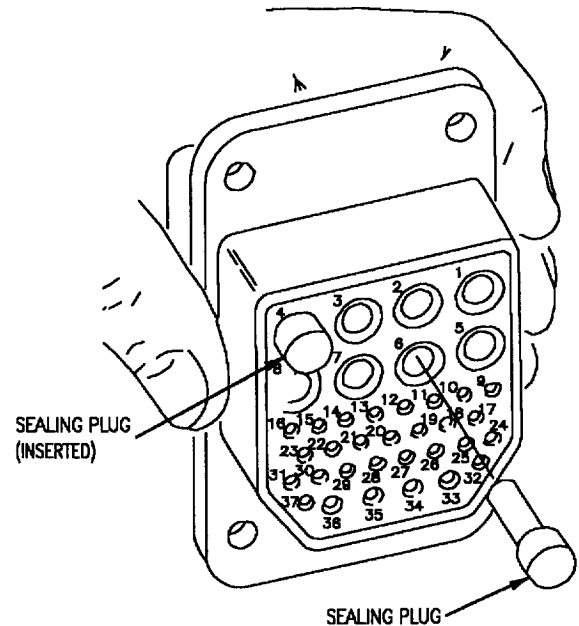


F/A-18-WRM-(600-10)02-CAT1

Figure 29. Inserting Coaxial Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with sealing plug, small diameter first. See figure 30.



F/A-18-WRM-(600-11)02-CAT1

Figure 30. Inserting Coaxial Sealing Plug(s) into Connector

28. WIRED COAXIAL CONTACT REMOVAL FROM CONNECTOR.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 3 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

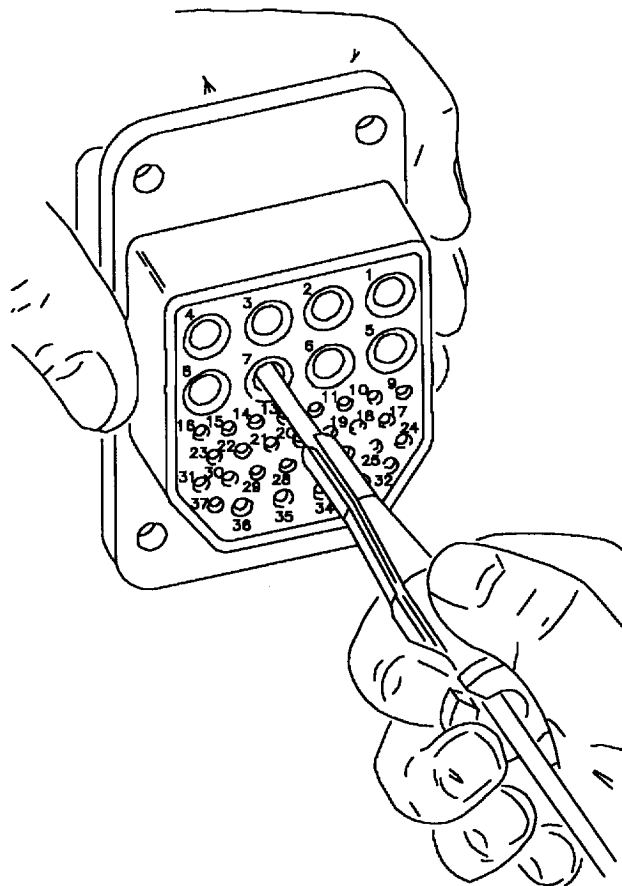
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

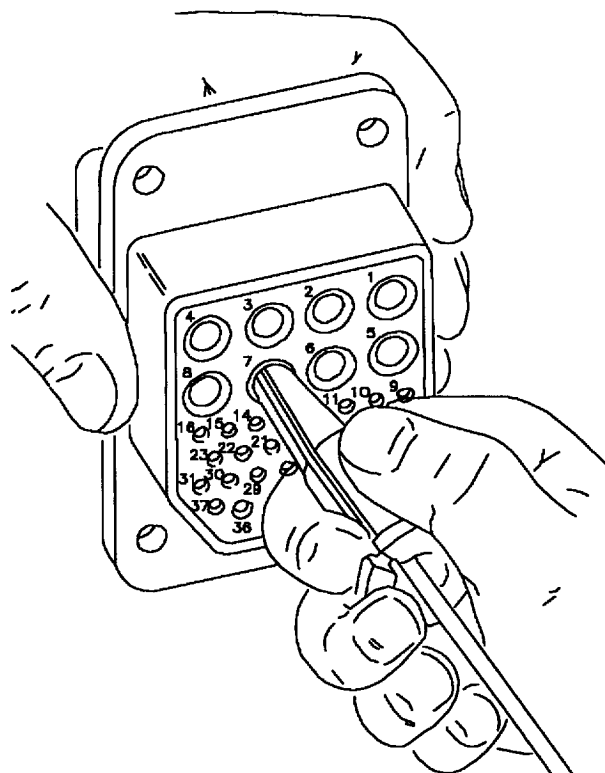
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 31.



F/A-18-WRM-(600-12)02-CAT1

Figure 31. Removal Tool on Coax Wire

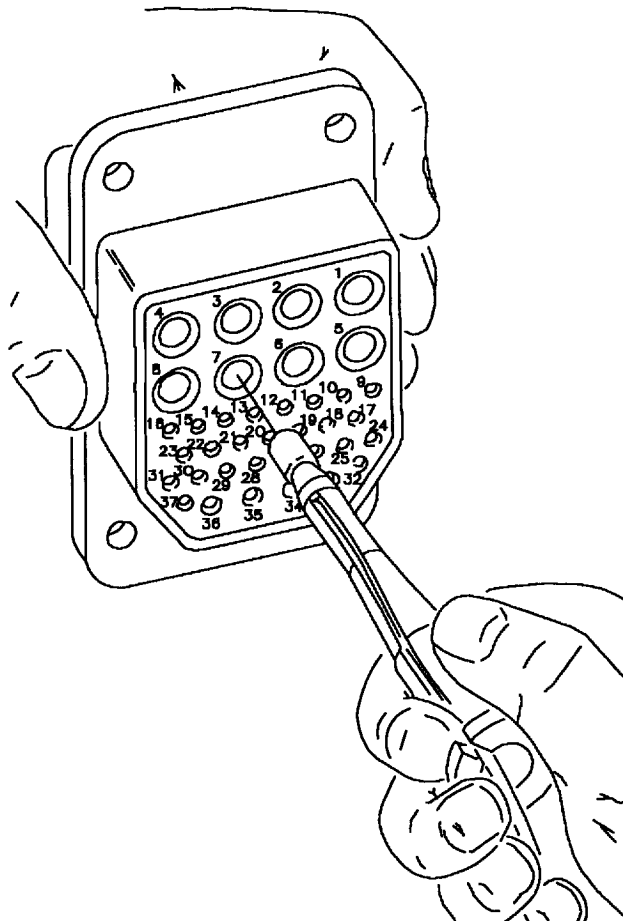
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 32.



F/A-18-WRM-(600-13)02-CAT1

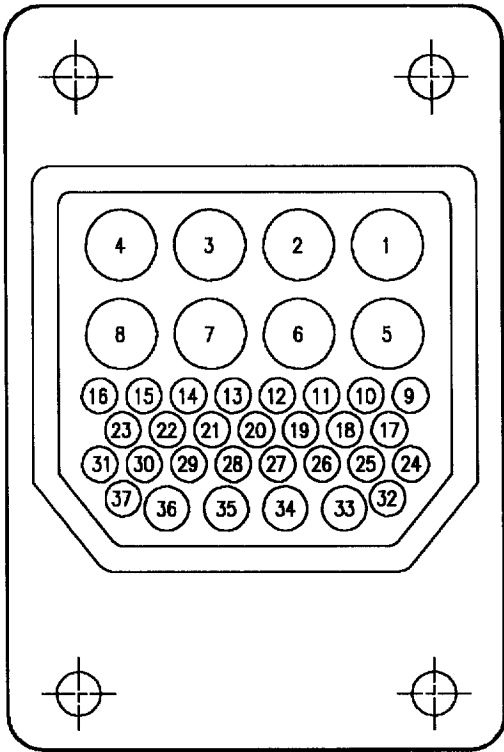
Figure 32. Unlocking Coaxial Contact Mechanism

g. Hold wire and tool, pull straight out from contact cavity. See figure 33.



F/A-18-WRM-(600-14)02-CAT1

Figure 33. Removing Coaxial Contact from Connector



F/A-18-WRM-(999-37)01-CATI

Reference Designation to Backshell Data Index for 0N089560-1 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
78P-E003	None	None

Table 1. Tool Data Wired Contacts

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Turret Head(Blue)	M22520/1-02
Insertion Tool (Blue)	M81969/14-03
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-03
Removal Tool (White	M81969/14-02
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Red)	DRK110-20-2
Removal Tool Probe (Blue)	DRK110-16-2

Figure 34. 0N089560-1 Connector (Sheet 1)

Table 2. Contact Data Wired Contacts

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
9 THRU 32 AND 37 33 THRU 36	11/64 15/64	M39029/5-115 M39029/5-116	MS27186-1 MS27187-1

Table 3. Tool Data Coaxial Contact

ITEM	TOOL NUMBER
Crimp Tool Handle, Center Contact Positioner	M22520/2-01 M22520/2-24
Crimp Tool Handle, Outer Sleeve	M22520/5-01
Die Set	M22520/5-39
Insertion Tool (Green)	0N089564
Removal Tool (White)	0N089565

Table 4. Contact Data Coaxial Contacts

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	OUTER SLEEVE PART NO.	SEALING PLUG PART NO.
1 THRU 8	See figure 35	0N089558-2	0N089558-5	0N089563

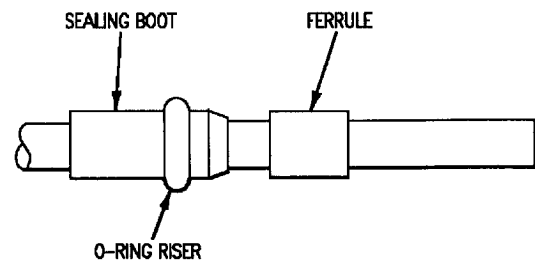
Figure 34. 0N089560-1 Connector (Sheet 2)

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

- a. Using 45-123 wire cutters, cut end of cable square. Slide sealing boot (0N089558-4) and outer sleeve (0N089558-5) onto cable as shown.

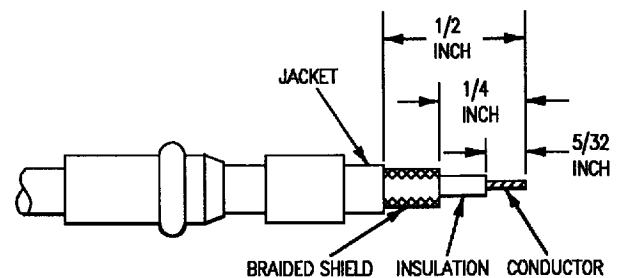


F/A-18-WRM-(622-1)02-CATI

CAUTION

To prevent premature failure of connector, do not nick center conductor while trimming dielectric.

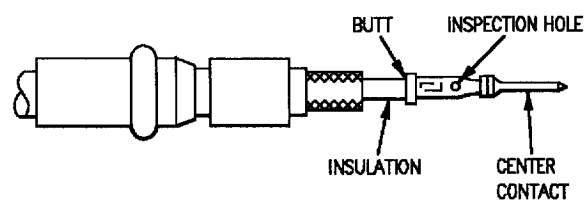
- b. Using cable stripper 45-163, strip 1/2 inch of outer jacket and 1/4 inch of braided shield. Using sharp knife strip 5/32 inch of insulation from center conductor as shown.



F/A-18-WRM-(622-2)02-CATI

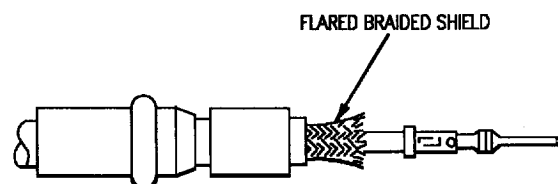
Figure 35. 0N089558-2 Coaxial Assembly Procedure (Sheet 1)

c. Insert center conductor into contact and butt as shown. Using M22520/2-01 crimp tool and M22520/2-24 positioner crimp center contact to conductor as shown.



F/A-18-WRM-(622-3)02-CATI

d. Slightly flare out braid shield as shown to accept crimp support sleeve of outer contact.

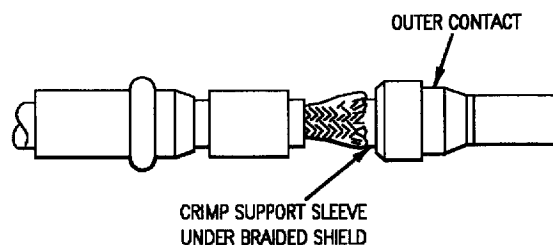


F/A-18-WRM-(622-4)02-CATI

NOTE

Center conductor must be visible through inspection hole.

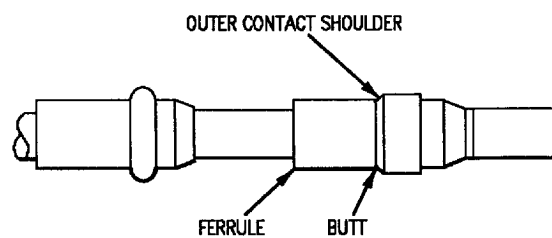
e. Insert center contact and cable assembly into outer contact and slide crimp support sleeve of outer contact under flared braiding shield as shown. Center contact shall be inserted until it locks in position in outer contact. Make sure contact is locked in place by gently pulling on cable.



F/A-18-WRM-(622-5)02-CATI

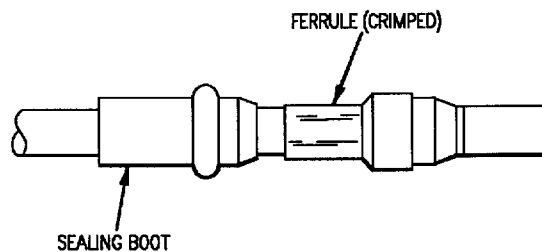
Figure 35. 0N089558-2 Coaxial Assembly Procedure (Sheet 2)

f. Slide ferrule over braided shield to butt shoulder of outer contact as shown.



F/A-18-WRM-(622-6)02-CATI

g. Using M22520/5-01 crimp tool and M22520/5-39 positioner crimp ferrule to braided shield as shown.



F/A-18-WRM-(622-7)02-CATI

Figure 35. 0N089558-2 Coaxial Assembly Procedure (Sheet 3)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****885-200-003****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

None

Reference Designation to Figure Number Index		Support Equipment Required	
Reference Designation	Figure No.	Part Number or Type Designation	Nomenclature
52J-U062	37	HT-900	Heat Tool
52J-U063	37	3308AS100	Repair Set-Wire and Connector
52J-V067	37	1317AS100-1	Nitrogen Servicing Unit-NAN-3
52J-V068	37		

1. DESCRIPTION.

2. The 885-200-002 is a quick disconnect flange mounted electrical receptacle. It has a temperature range of -85° to +302°F. It contains wired contacts, coaxial contacts, twinax contacts, and sealing plugs. See figure 1.

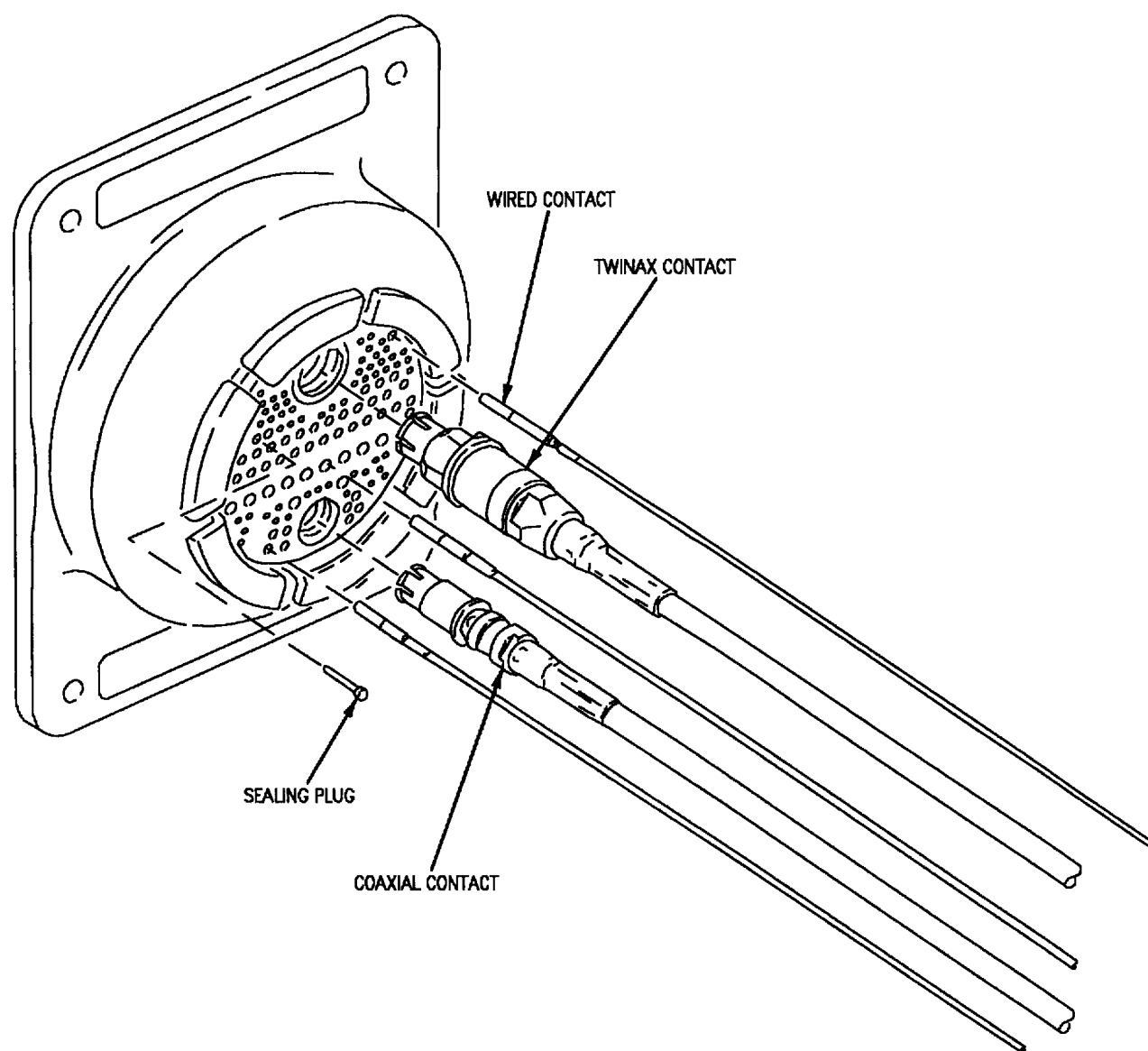
3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B M23053/5-XXX-0	Isopropyl Alcohol Shrink Sleeve



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.



F/A-18-WRM-(395-1)02-SCAN

Figure 1. 885-200-003 Connector and Contacts

4. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

5. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

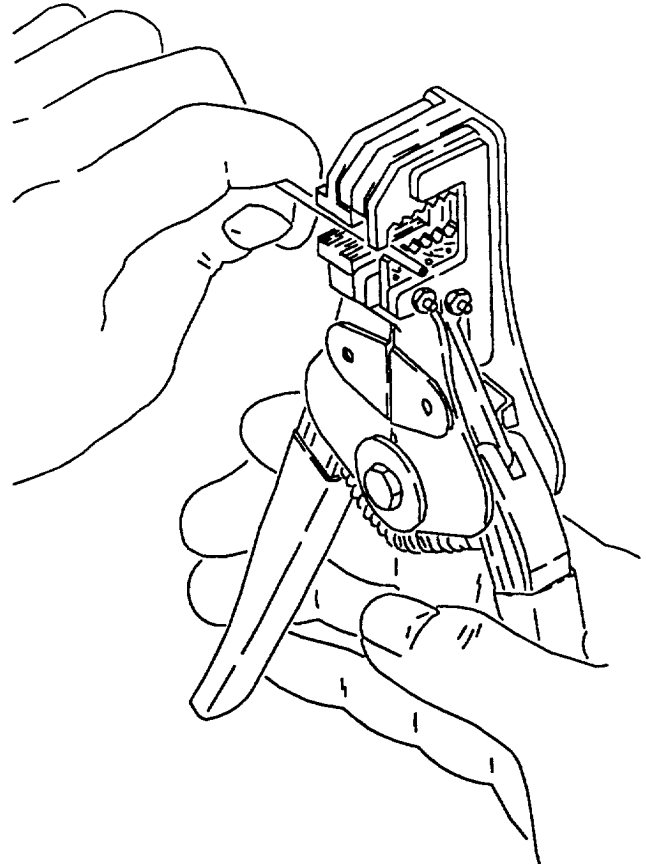
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

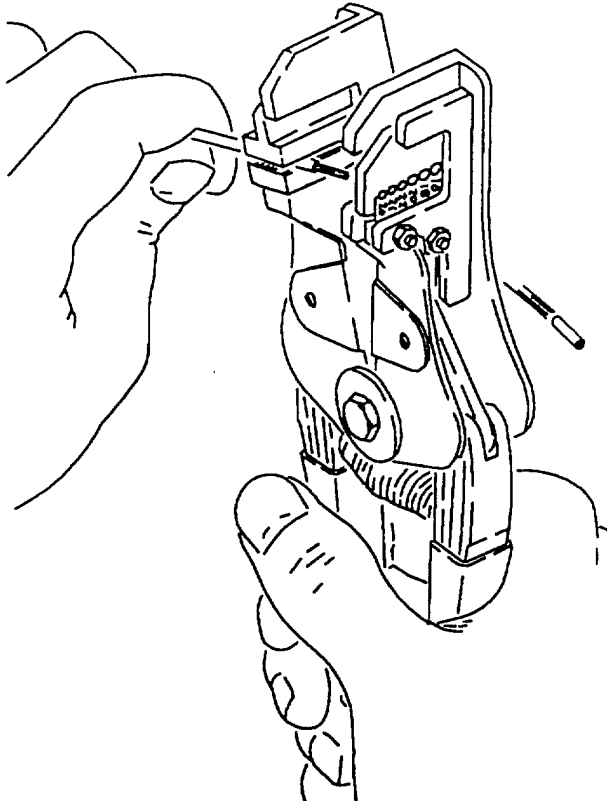
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 2.



F/A-18-WRM-(401-1)01-SCAN

Figure 2. Placing Wire in Slot of Stripping Tool

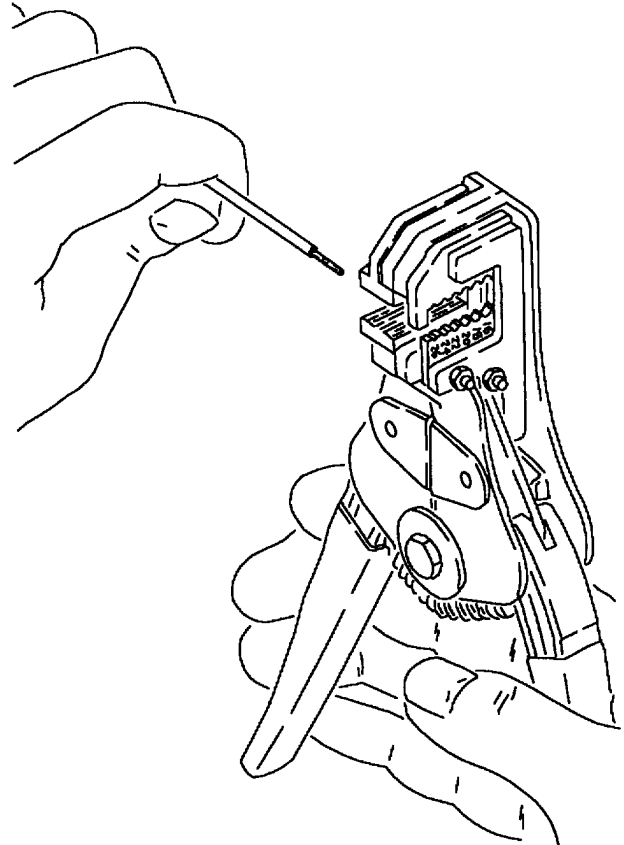
e. Close handles together as far as they will go. See figure 3.



F/A-18-WRM-(402-1)01-SCAN

Figure 3. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 4.

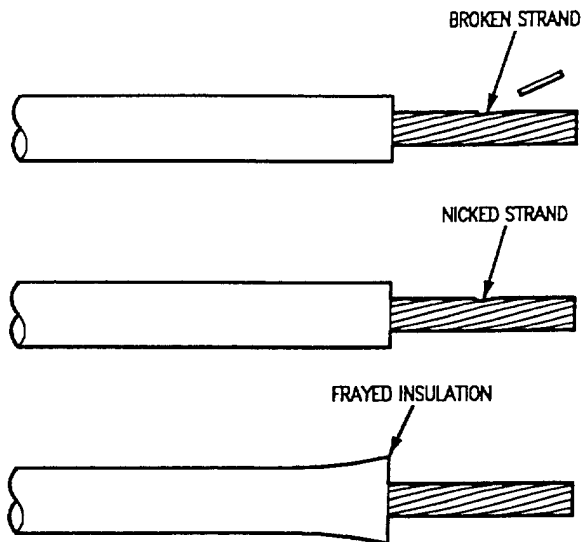


F/A-18-WRM-(403-1)01-SCAN

Figure 4. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 5 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 5. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

8. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

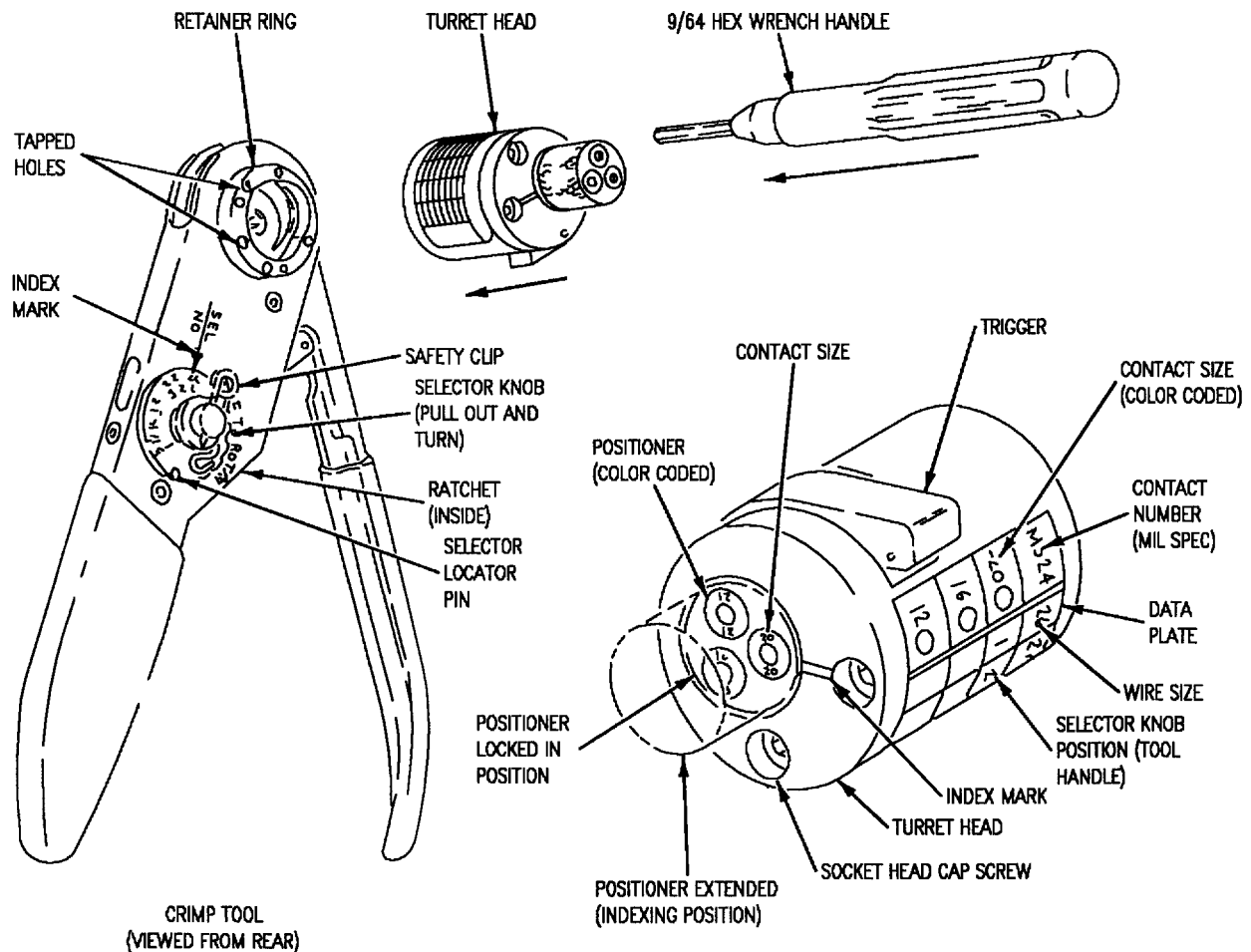
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 6.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 6. M22520/1-01 Crimp Tool Handle and Turret Head

9. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

10. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

11. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

12. REMOVAL AND INSTALLATION OF POSITIONER.

NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 7.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.

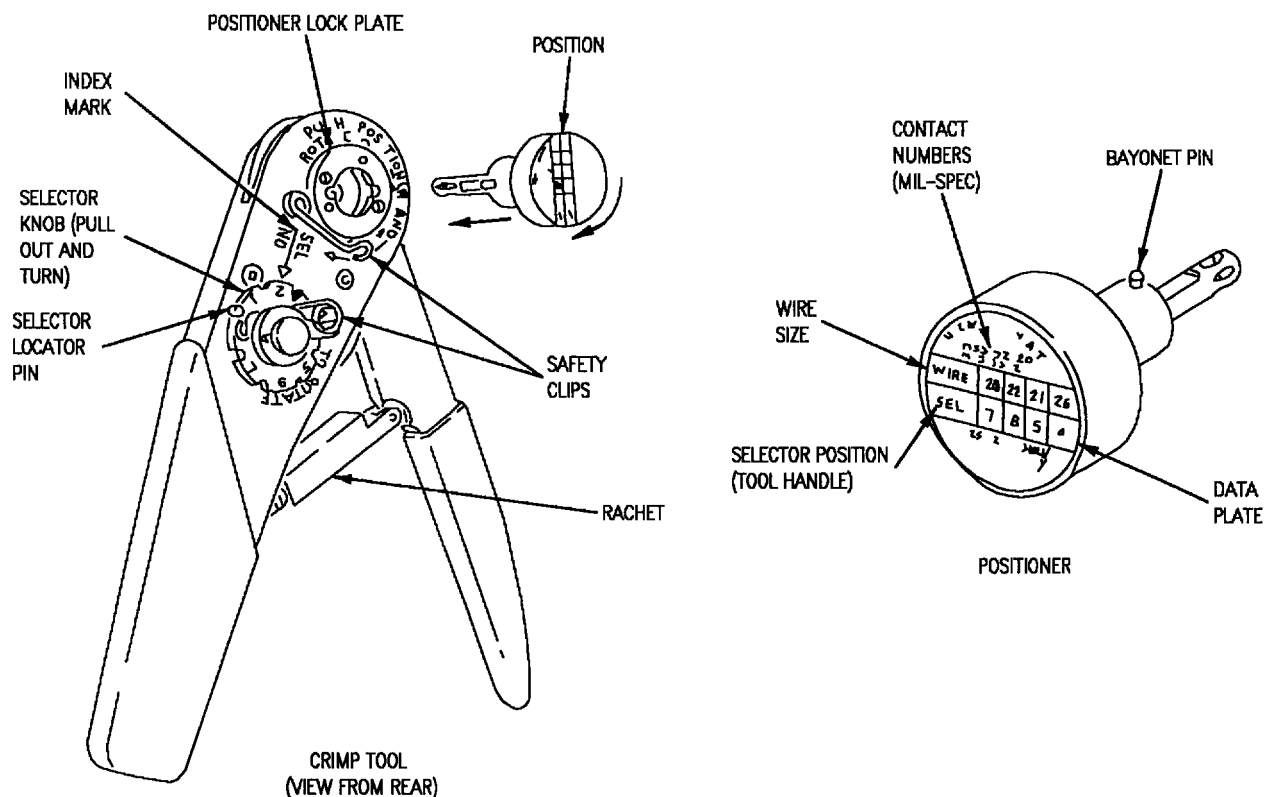


Figure 7. M22520/2-01 Crimp Tool Handle and Positioner

13. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

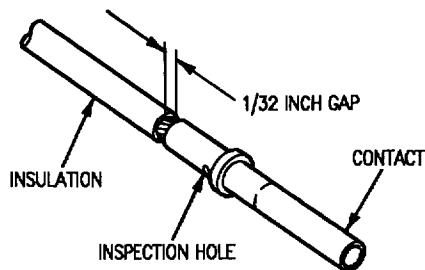
c. Install safety clip.

14. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 8.



F/A-18-WRM-(406-2)01-CAT1

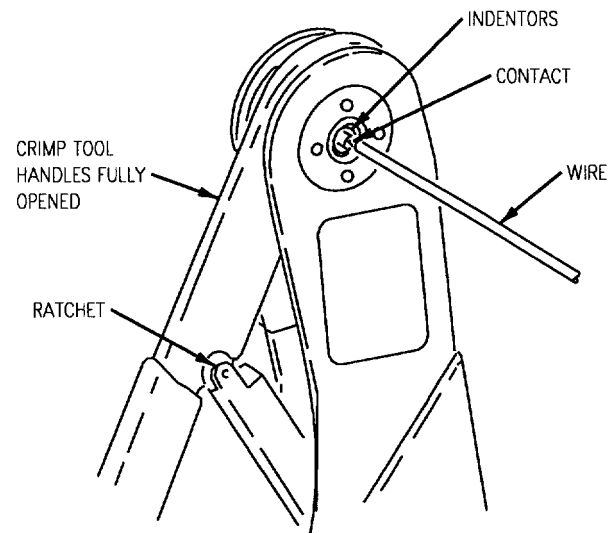
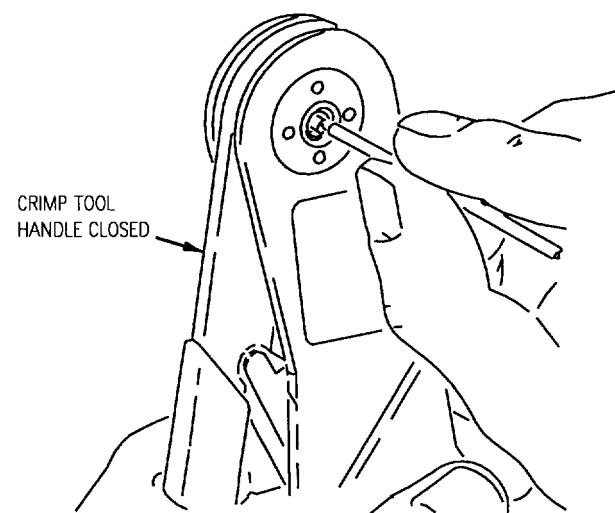
Figure 8. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 9, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 9, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)**DETAIL A****DETAIL B**

F/A-18-WRM-(407-1)01-CAT1

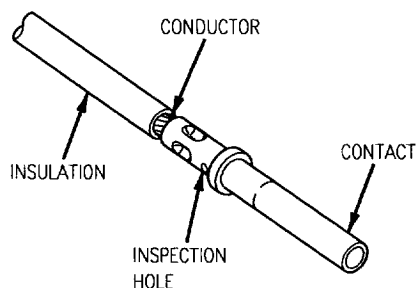
Figure 9. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 10.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(408-2)01-CATI

Figure 10. Inspection of Crimped Contact

15. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

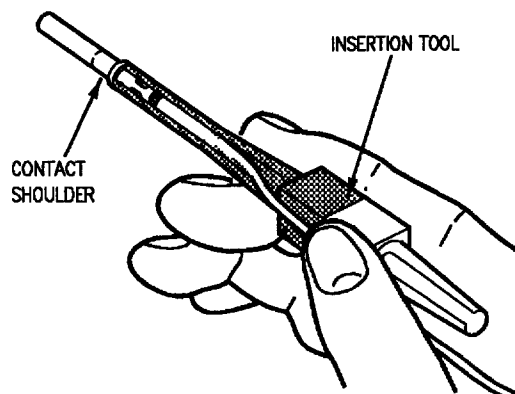
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 11.



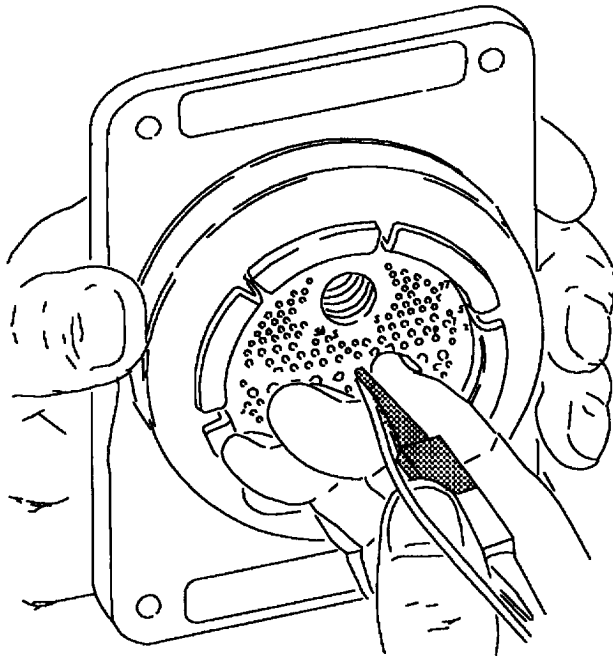
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(723-3)01-CATI

Figure 11. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 12.

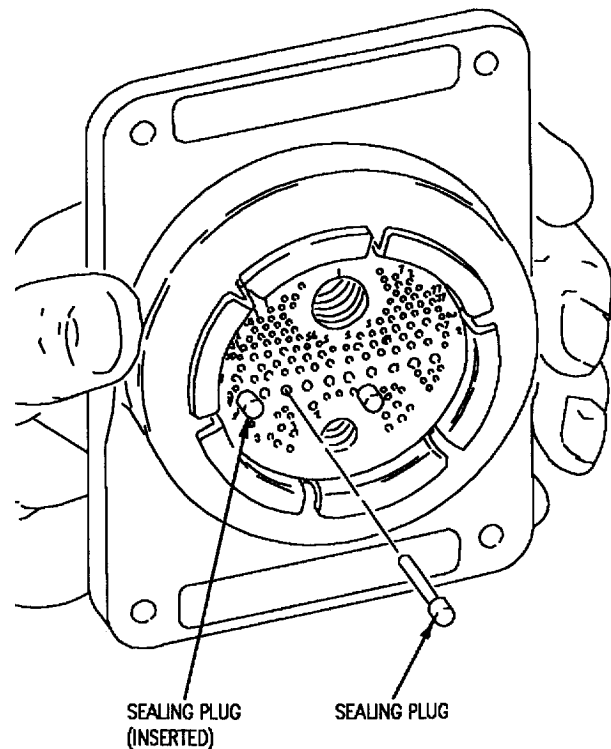


F/A-18-WRM-(400-17)02-SCAN

Figure 12. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 13.



F/A-18-WRM-(400-1)02-SCAN

Figure 13. Inserting Sealing Plug(s) into Connector

16. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

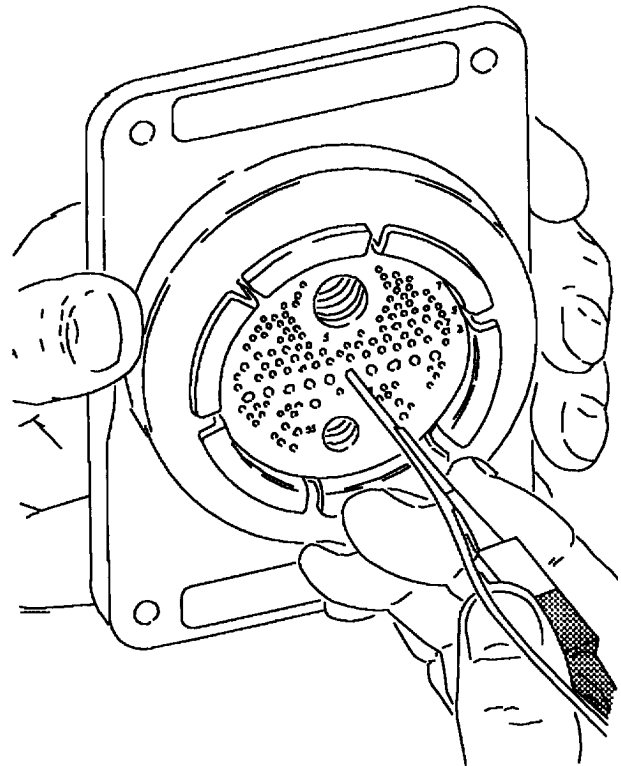
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

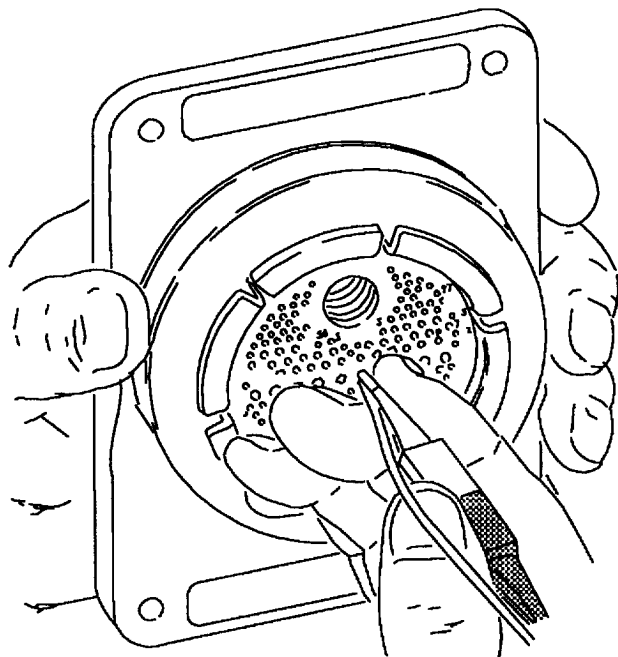
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 14.



F/A-18-WRM-(400-2)02-SCAN

Figure 14. Removal Tool on Wire

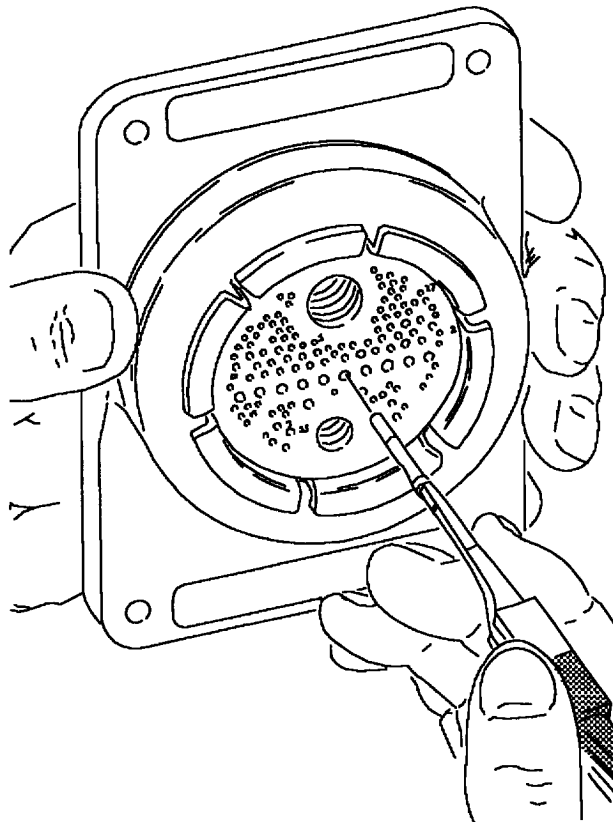
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 15.



F/A-18-WRM-(400-3)02-SCAN

Figure 15. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 16.



F/A-18-WRM-(400-4)02-SCAN

Figure 16. Removing Contact from Connector

17. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

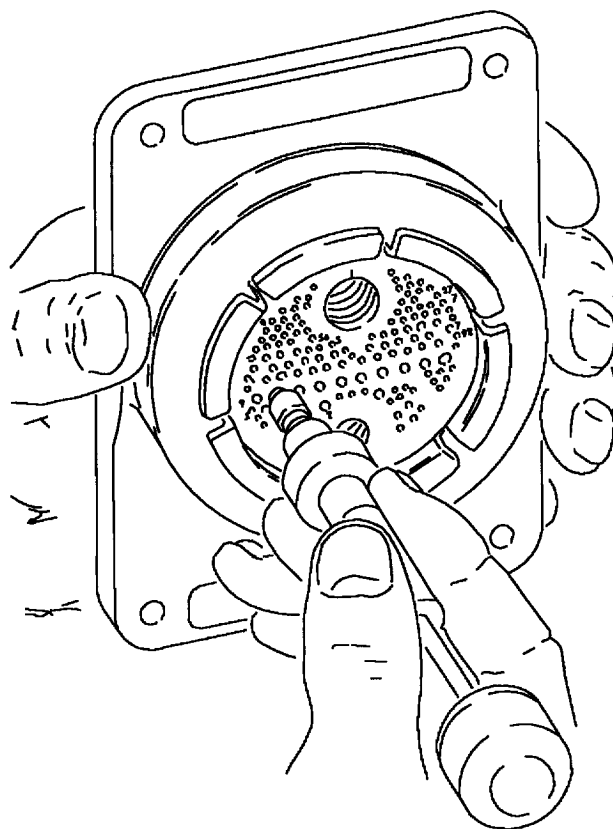
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

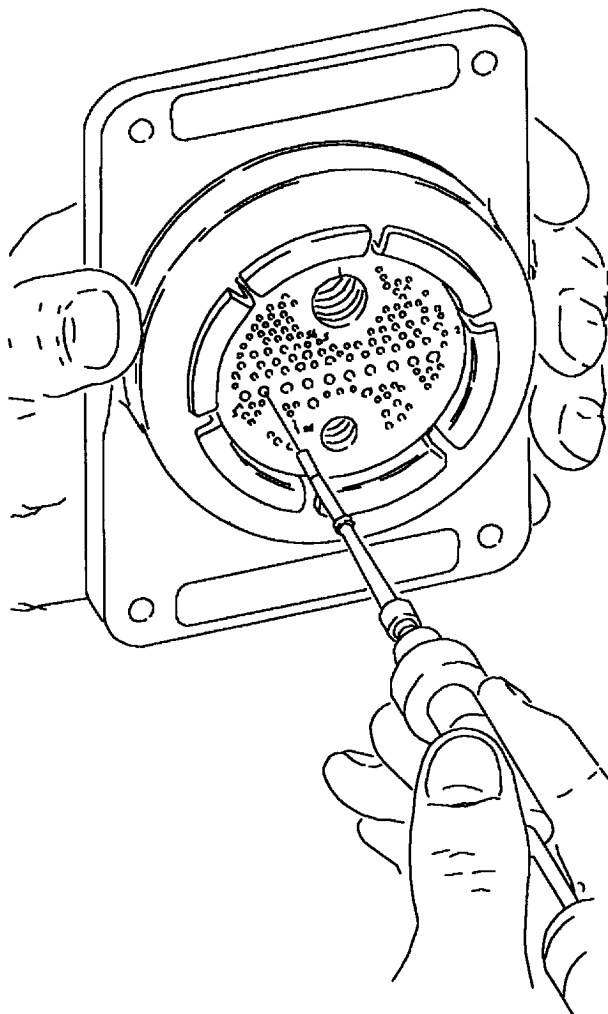
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 17.



F/A-18-WRM-(400-5)02-SCAN

Figure 17. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 18.



F/A-18-WRM-(400-6)02-SCAN

Figure 18. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

18. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

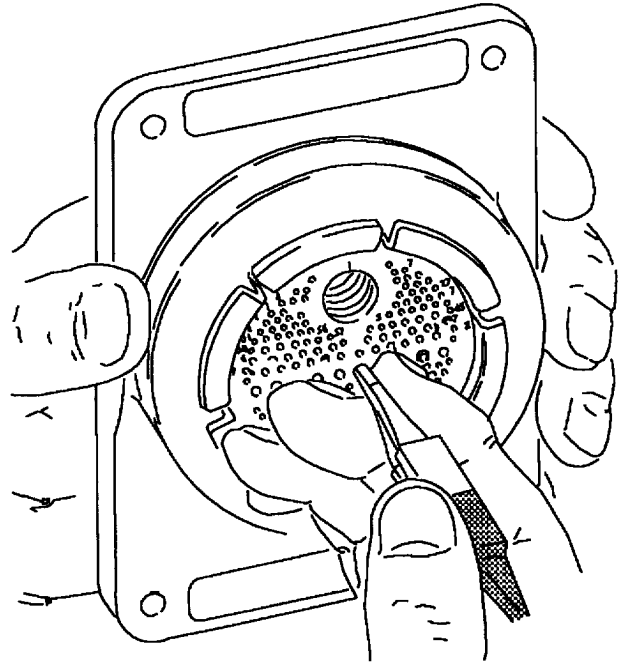
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.

CAUTION

Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 19.



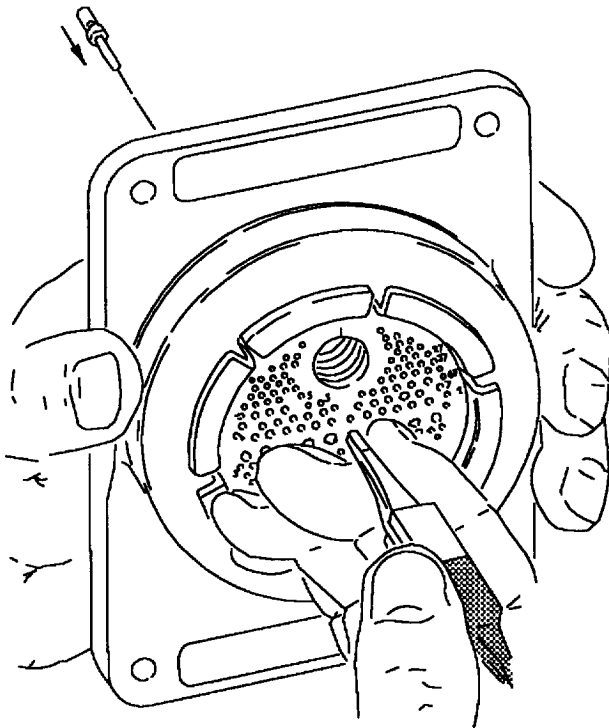
F/A-18-WRM-(400-7)02-SCAN

Figure 19. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 20.



F/A-18-WRM-(400-8)02-SCAN

Figure 20. Broken Wire Contact Removal

19. COAX REPAIR PROCEDURES.

a. If backshell requires disassembly do the substeps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

20. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

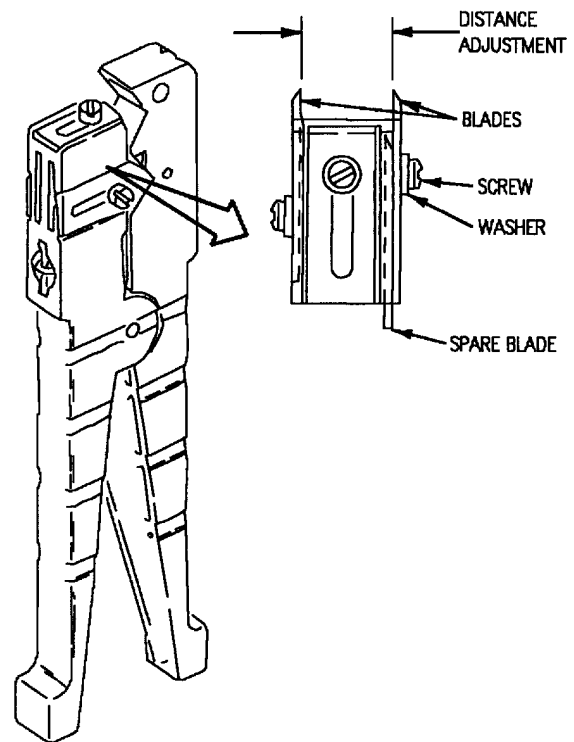
21. DISTANCE ADJUSTMENT.

- a. Measure distance between blades. See figure 21.
- b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades $\frac{3}{64}$ -inch.

- c. Install screws and tighten handtight.
- d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

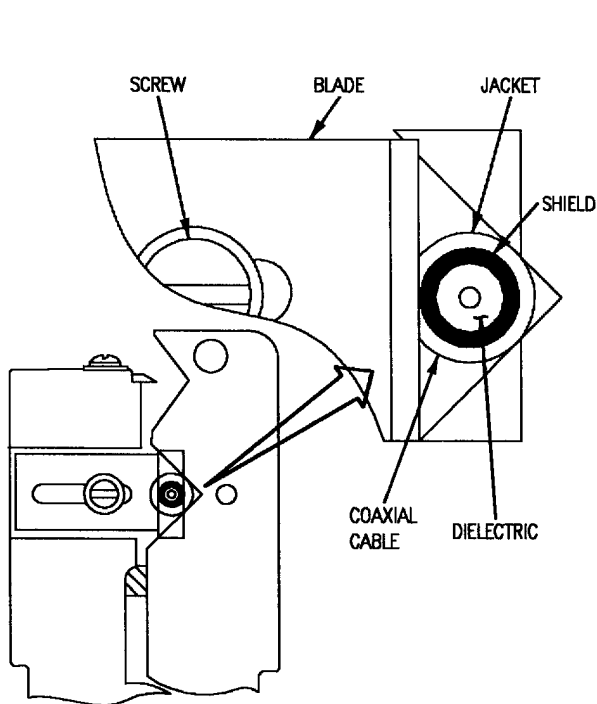
Figure 21. Distance Adjustment

22. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare coax before stripping coax to be used.

- a. Position coaxial cable in stripper until the end butts against the blade. See figure 22.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



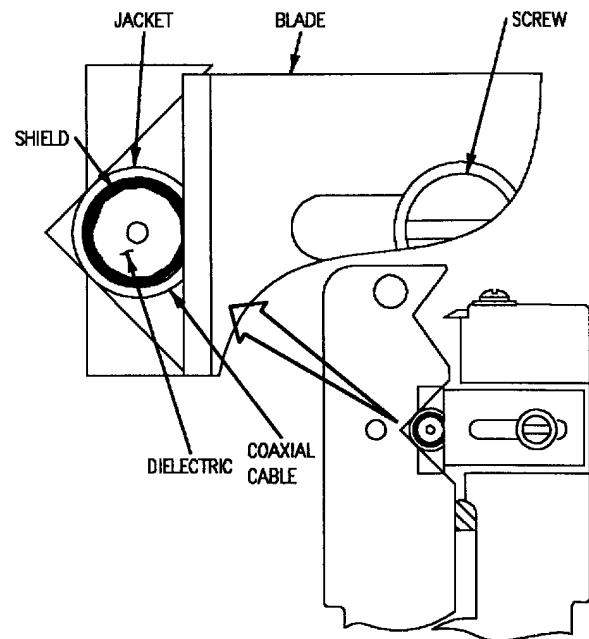
F/A-18-WRM-(409-3)01-CATI

Figure 22. Jacket Cut Adjustment

- c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 23.

- d. Adjust blade so it cuts through shield without damaging dielectric.

- e. If required, repeat steps 22a through 22d until blades cut through jacket and shield without damaging shield and dielectric.



F/A-18-WRM-(409-4)01-CATI

Figure 23. Shield Cut Adjustment

23. USE.

a. Position stripper on cable so that blades face down. See figure 24.

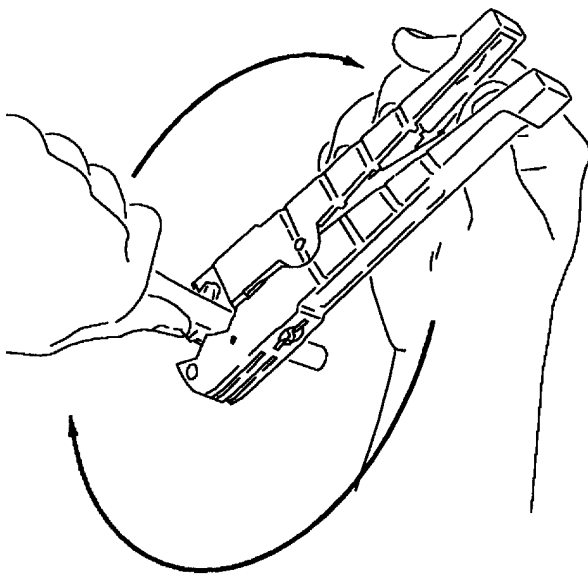
NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.

c. Remove stripper from cable.

d. Remove stripped jacket and shield.

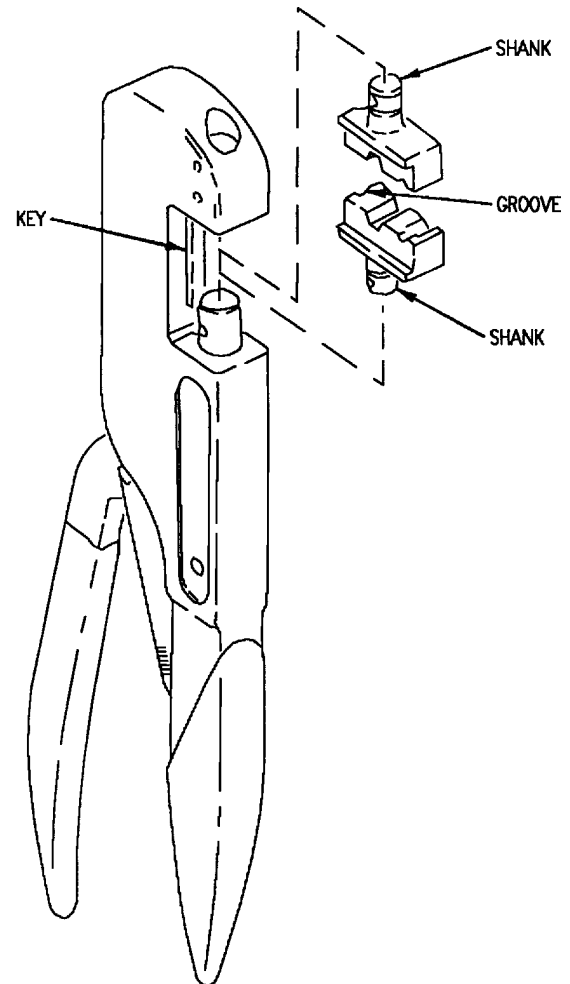


F/A-18-WRM-(409-1)01-SCAN

Figure 24. Operation**24. CRIMP TOOL M22520/5-01
ASSEMBLY AND USE.****25. DIE INSTALLATION.**

a. Align groove in die with key in crimping tool and push shank of die into hole.

b. Close handle to make sure dies are correctly seated and locked in place. See figure 25.

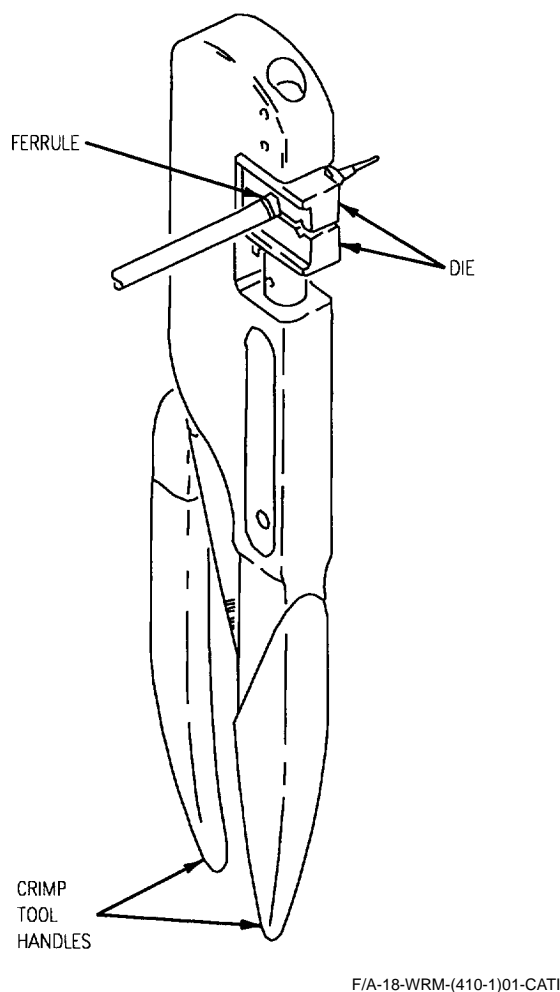


F/A-18-WRM-(410-2)01-SCAN

Figure 25. Die Installation

26. CRIMP PROCEDURE.

a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 26.

**Figure 26. Crimp Positioning**

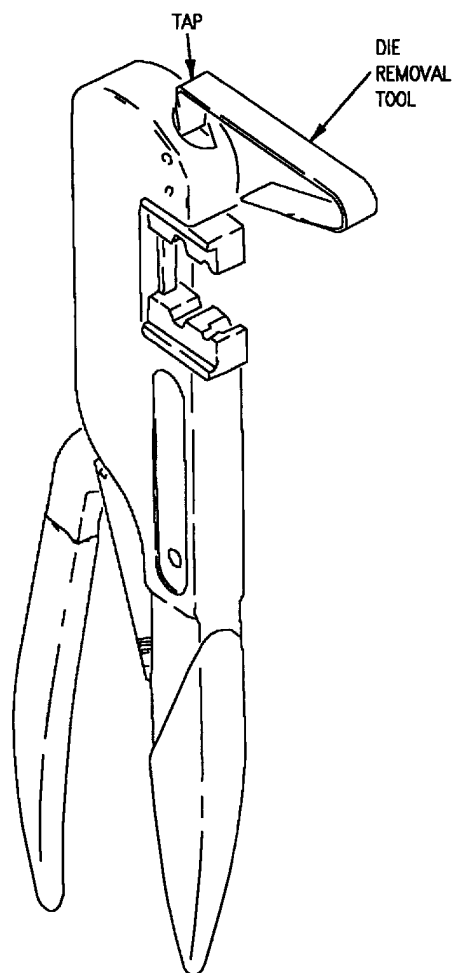
b. Squeeze tool handles until ratchet releases.

c. Open handles and remove ferrule assembly and inspect crimp.

27. DIE REMOVAL.**NOTE**

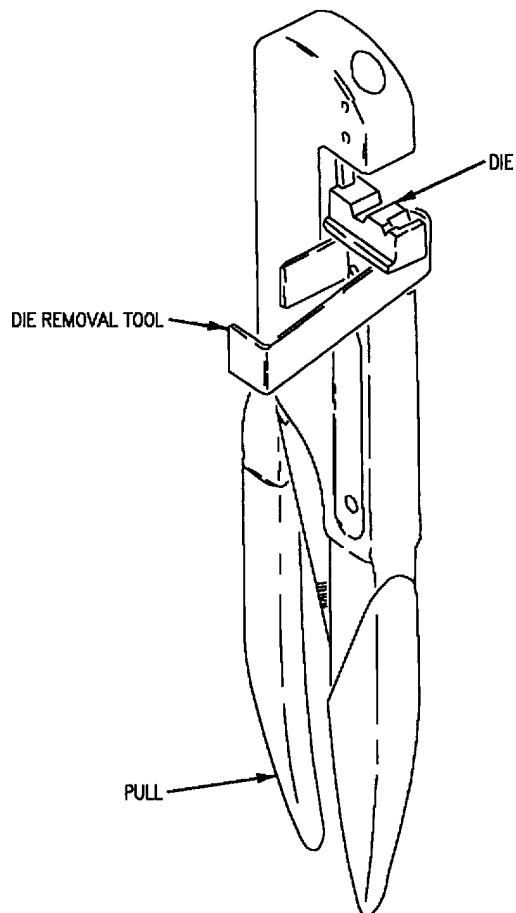
Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 27.

**Figure 27. Upper Die Removal**

b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 28.



F/A-18-WRM-(410-4)01-SCAN

Figure 28. Lower Die Removal

d. Pull handle open with snap action. The die will be released from the lock spring and can then be removed by hand.

28. INSERTION OF COAX CONTACT INTO CONNECTOR.**WARNING**

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

a. Isopropyl alcohol may be used as lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

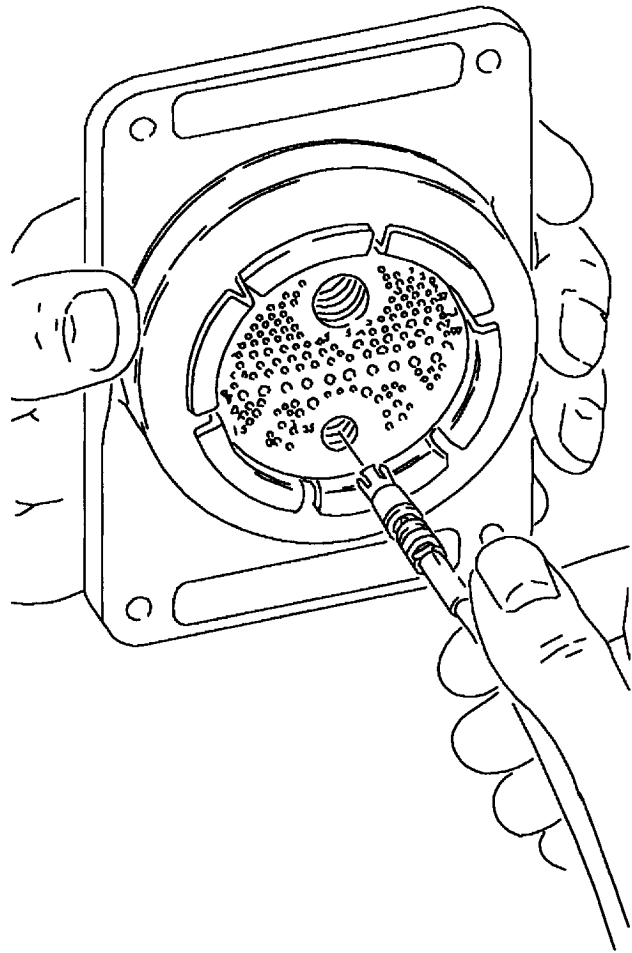
NOTE

Insertion of coax contacts is to be done by hand.

b. At right angle to connector insert, align contact with cavity in connector and press contact firmly to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 29.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.



F/A-18-WRM-(400-9)02-SCAN

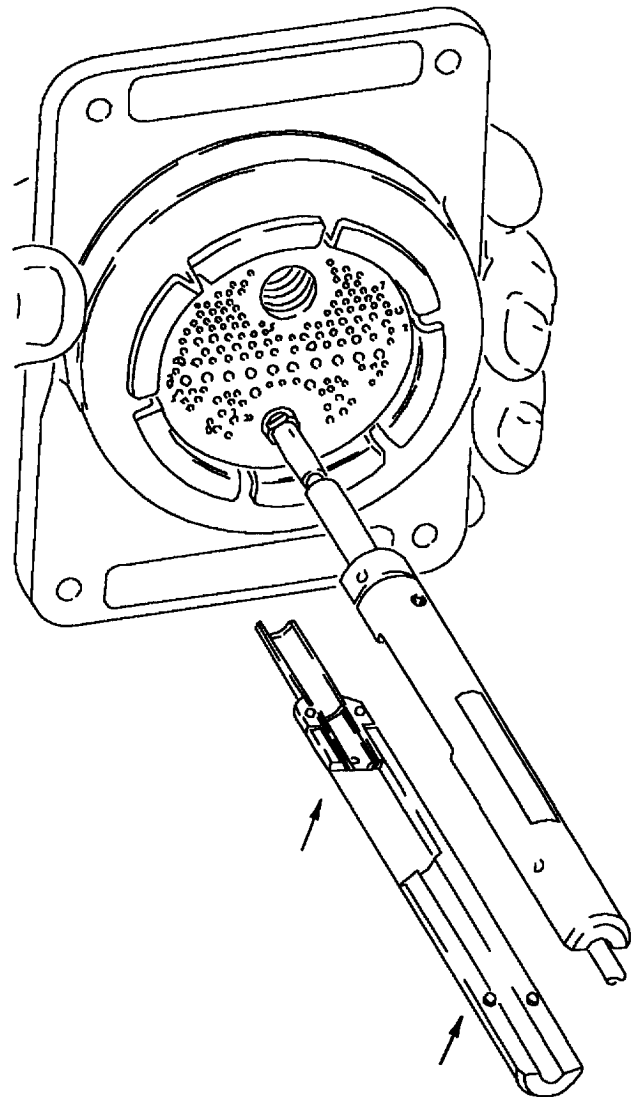
Figure 29. Inserting Coaxial Contact into Connector

29. COAX CONTACT REMOVAL FROM CONNECTOR.**WARNING**

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

a. Isopropyl alcohol may be used as lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

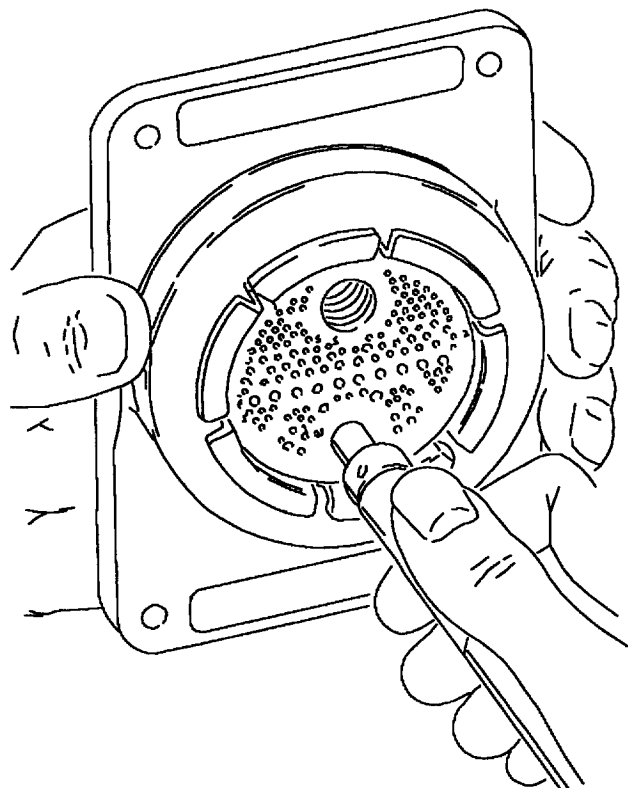
b. Place removal tool halves, over cable at rear of connector. (See figure 30).



F/A-18-WRM-(400-10)02-SCAN

Figure 30. Placement of Removal Tool

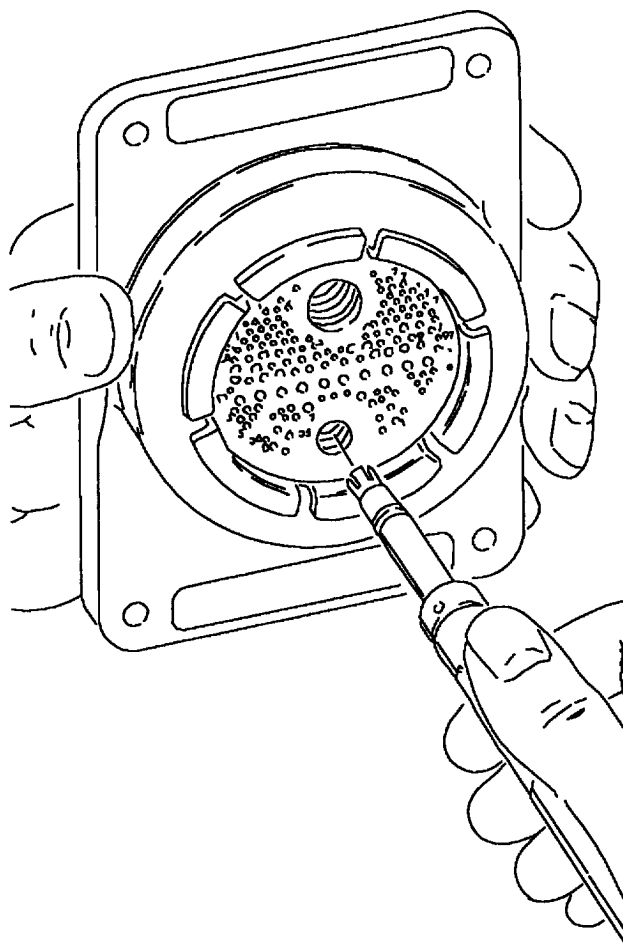
c. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 31.



F/A-18-WRM-(400-1)02-SCAN

**Figure 31. Unlocking Coaxial
Contact Mechanism**

d. Hold wire and tool, pull straight out from contact cavity. See figure 32.



F/A-18-WRM-(400-12)02-SCAN

**Figure 32. Removing Coaxial
Contact from Connector**

30. INSERTION OF TWINAXIAL CONTACT INTO CONNECTOR.

WARNING

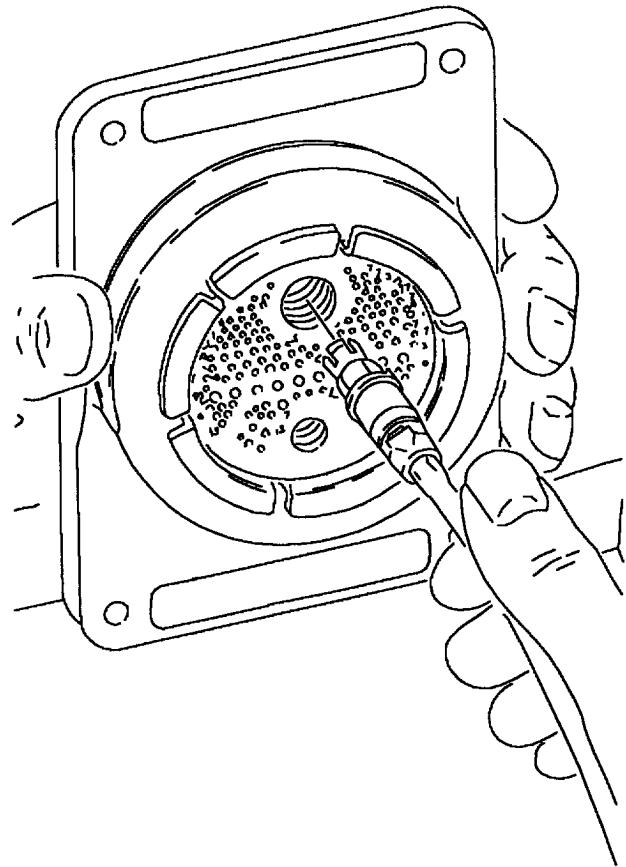
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

a. Isopropyl alcohol may be used as lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

NOTE

Insertion of coax contacts is to be done by hand.

b. At right angle to connector insert, align contact with cavity in connector and press contact firmly to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 33.



F/A-18-WRM-(400-13)02-SCAN

Figure 33. Inserting Twinaxial Contact into Connector

31. TWINAXIAL CONTACT REMOVAL FROM CONNECTOR.

WARNING

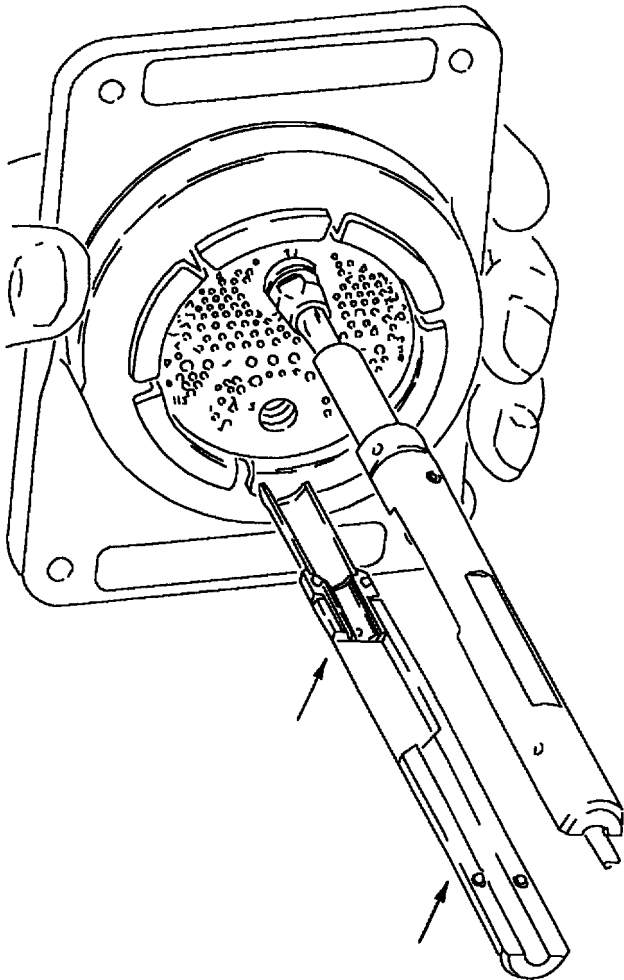
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

a. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

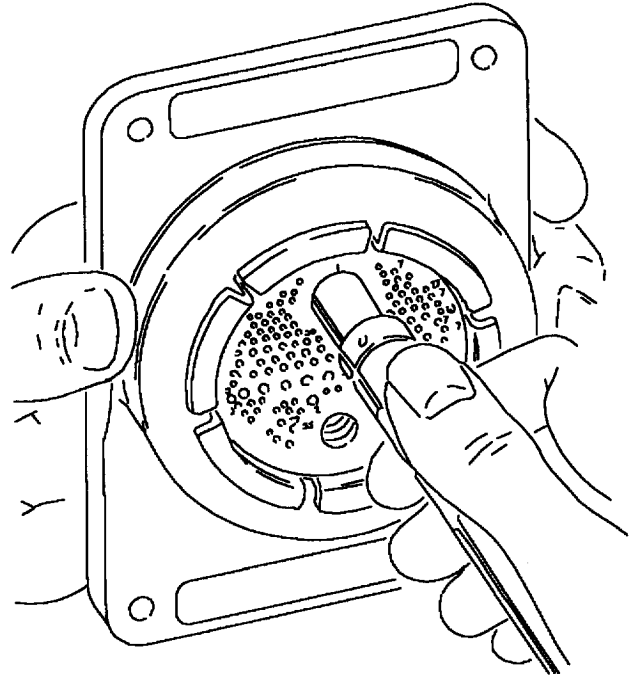
b. Place 885-165-COTO removal tool, (tool location 305), halves over cable at rear of connector. See figure 34.



F/A-18-WRM-(400-14)02-SCAN

**Figure 34. Placement of
885-165-COTO Removal Tool**

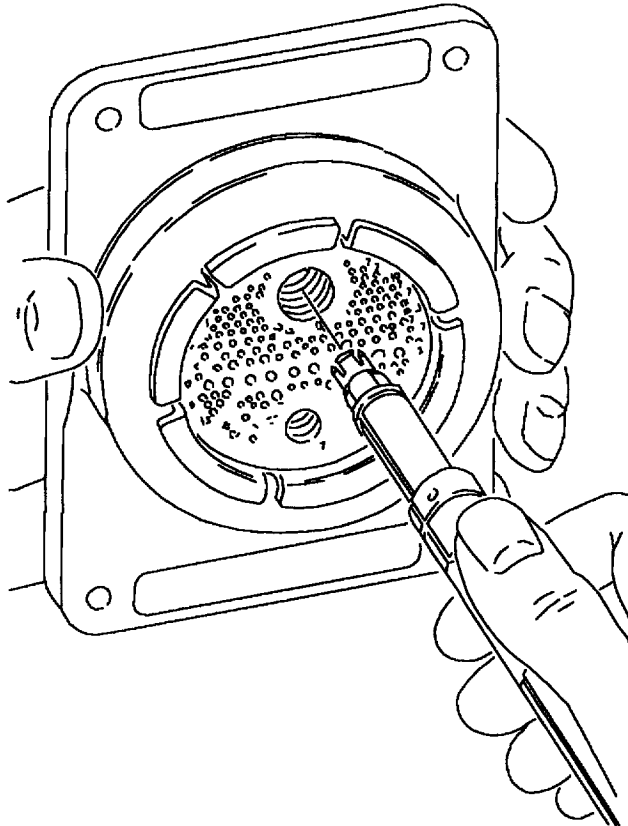
c. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 35.



F/A-18-WRM-(400-15)02-SCAN

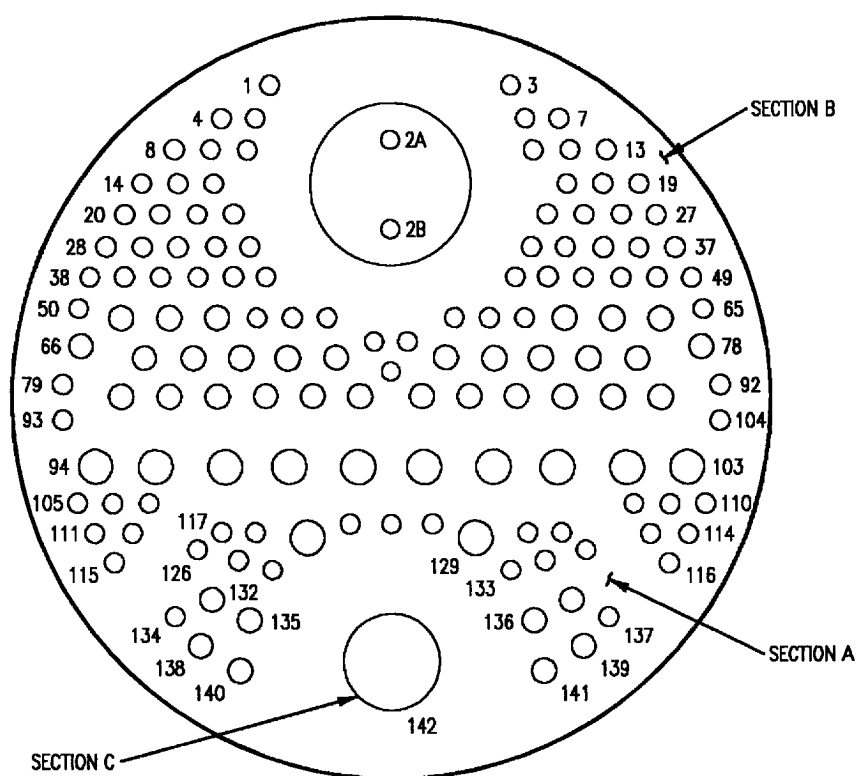
**Figure 35. Unlocking Twinaxial
Contact Mechanism**

d. Hold wire and tool, pull straight out contact cavity. See figure 36.



F/A-18-WRM-(400-16)02-SCAN

**Figure 36. Removing Twinaxial
Contact from Connector**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(908-1)02-CATI

Reference Designation to Backshell Data Index for 885-200-003 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
52J-U062	None	None
52J-U063	None	None
52J-V067	None	None
52J-V068	None	None

Figure 37. 885-200-003 Connector (Sheet 1)

Table 1. Tool Data For Wired Contacts

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520-1-07
Crimp Tool Handle	M22520-1-01
Turret Head	M22520/1-04
Insertion Tool (Green)	M81969/14-01
Insertion Tool (Red)	M81969/14-02
Insertion Tool (Blue)	M81969/14-03
Removal Tool (White)	M81969/14-01
Removal Tool (White)	M81969/14-02
Removal Tool (White)	M81969/14-03
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2
Removal Tool Probe (Red)	DRK105-20-2
Removal Tool Probe (Blue)	DRK105-16-2

Table 2. Contact Data For Wired Contacts

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
51 THRU 53, 62 THRU 64, 66 THRU 71, 73 THRU 78, 80 THRU 91, 132, 133, 135, 136, and 138 THRU 141	7/32	M39029/56-351	MS27488-20
1, 3 THRU 50, 54 THRU 61, 65, 72, 79, 92, 93, 104, THRU, 118, 120, THRU 122, 124, THRU 131, 134, and 137	5/32	M39029/56-348	MS27488-22
94 THRU 103, 119 and 123	7/32	M39029/56-352	MS27488-16

Figure 37. 885-200-003 Connector (Sheet 2)

Table 3. Tool Data For Coax Contacts

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/5-01
Die Set (Center Contact)	Y204 Closure B
Crimping Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	M22520/5-19 Closure B
Contact Removal Tool	DRK258C
Torque Wrench	BT-ST-751

Table 4. Contact Data For Coax Contacts

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
142	See figure 38, step a.	885-270-001	N/A

Table 5. Tool Data For Twinax Contact

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner (Center Contact)	M22520/2-07
Crimping Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	M22520/5-19 Closure B
Contact Removal Tool	885-165-COTO
Torque Wrench	BT-ST-751

Table 6. Contact Data For Twinax Contact

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
2A and 2B	see figure 39	885-213-001	N/A

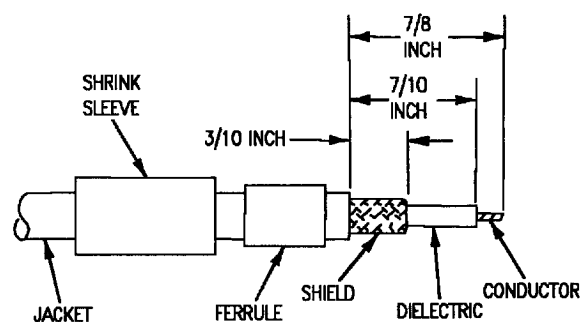
Figure 37. 885-200-003 Connector (Sheet 3)



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

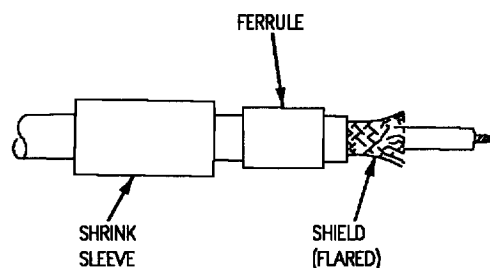
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

- a. Slide M23053/5 sleeving and outer ferrule over cable and strip to dimensions shown.



F/A-18-WRM-(398-1)02-CATI

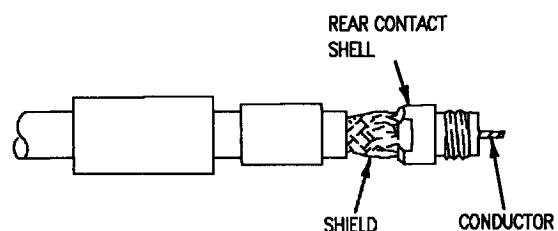
- b. Flare braided shield as shown.



F/a-18-WRM-(398-2)02-CATI

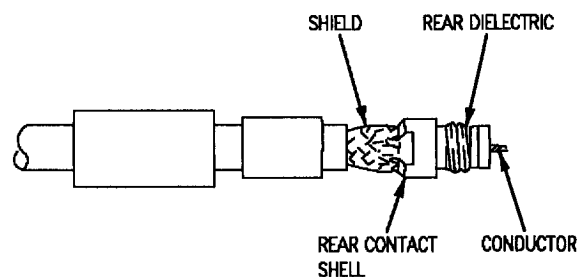
Figure 38. 885-270-001 Coaxial Assembly Procedure (Sheet 1)

c. Slide rear contact shell over cable dielectric and under shield until it bottoms against shield.



F/A-18-WRM-(398-3)02-CATI

d. Slide rear dielectric over conductor until it butts against cable dielectric.

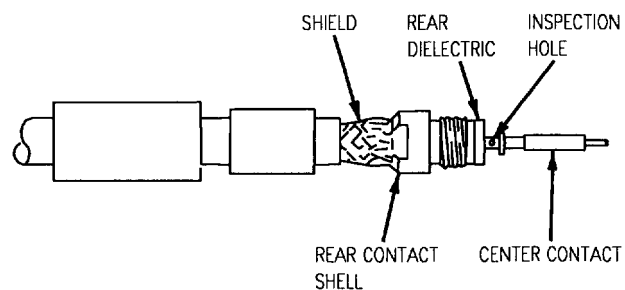


F/A-18-WRM-(398-4)02-CATI

NOTE

Center conductor must be visible through inspection hole.

e. Slide center contact over center conductor. Crimp contact using tooling specified in table 3.



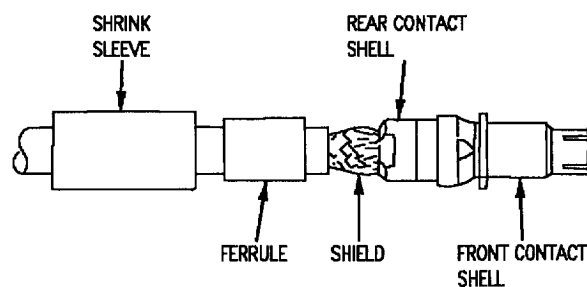
F/A-18-WRM-(398-5)02-CATI

Figure 38. 885-270-001 Coaxial Assembly Procedure (Sheet 2)



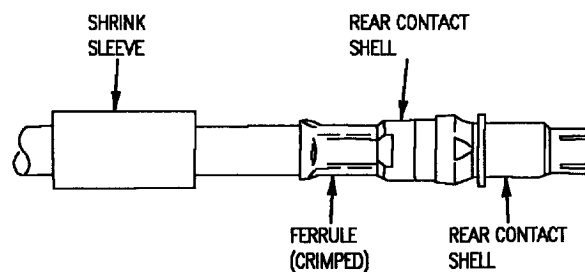
Hold front contact shell stationary and rotate rear contact shell until finger tight to prevent wire and connector damage.

f. Slide front contact shell over center contact and engage threads of rear contact shell, using BT-ST-751 torque wrench, torque to 8 to 10 inch-pounds.



F/A-18-WRM-(398-6)02-CAT1

g. Slide ferrule forward over shield until it butts against shoulder of rear contact shell, and crimp in place using M22520/5-19 die set cavity B.



F/A-18-WRM-(398-7)02-CAT1

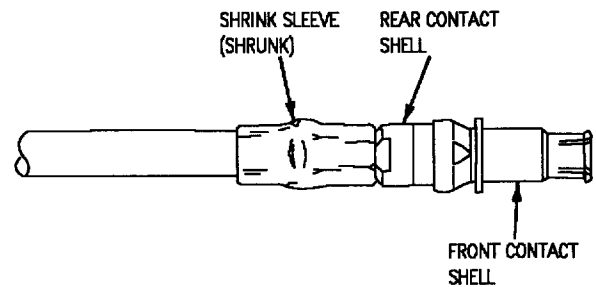
Figure 38. 885-270-001 Coaxial Assembly Procedure (Sheet 3)

WARNING

To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

h. Slide M23053/5 sleeving over crimp area and heat shrink with heat tool and nitrogen servicing unit.



F/A-18-WRM-(398-8)02-CAT1

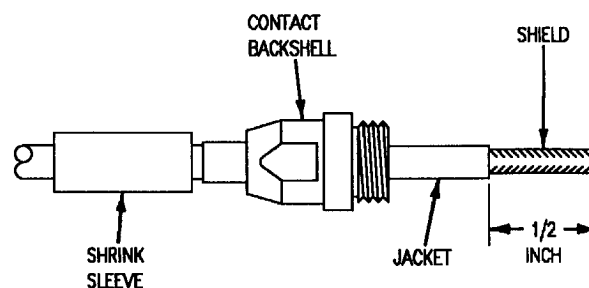
Figure 38. 885-270-001 Coaxial Assembly Procedure (Sheet 4)



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

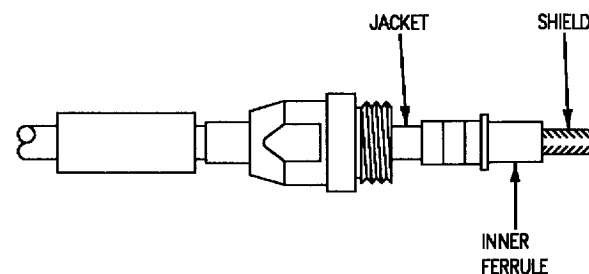
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

- a. Slide M23053/5 sleeving and contact backshell over cable and strip to dimension shown.



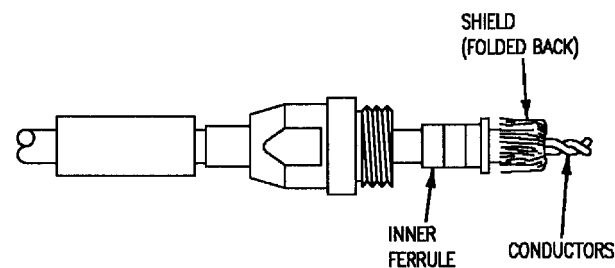
F/A-18-WRM-(399-1)02-CATI

- b. Slide inner ferrule over braided shield until it butts against edge of cable jacket.



F/A-18-WRM-(399-2)02-CATI

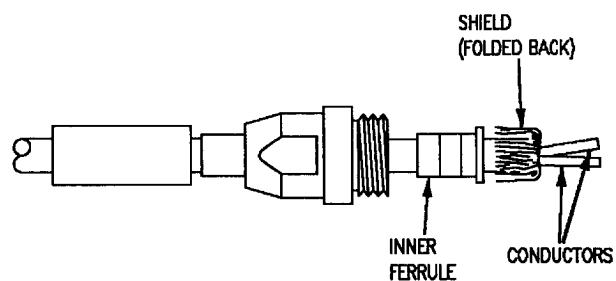
- c. Fold shield back over inner ferrule.



F/A-18-WRM-(399-3)02-CATI

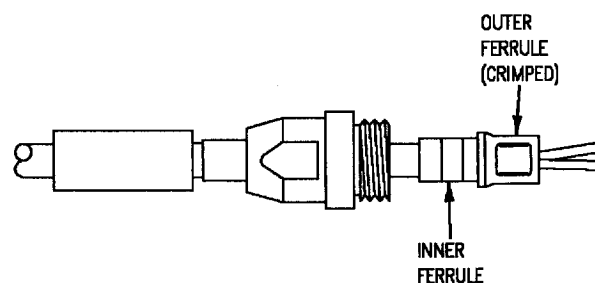
Figure 39. 885-213-001 Twinax Assembly Procedure (Sheet 1)

d. Straighten twisted conductors, trim and discard cable fillers.



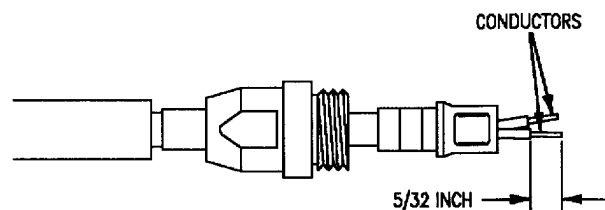
F/A-18-WRM-(399-4)02-CATI

e. Slide outer ferrule over shield until it butts against inner ferrule. Crimp outer ferrule using M22520/5-01 crimping tool with M22520/5-19 die set cavity B. Trim excess shield strands after crimping.



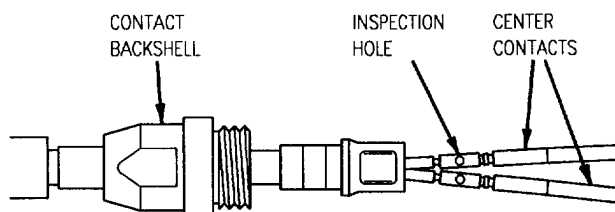
F/A-18-WRM-(399-5)02-CATI

f. Strip 5/32-inch of conductor shield from both conductors.



F/A-18-WRM-(399-6)02-CATI

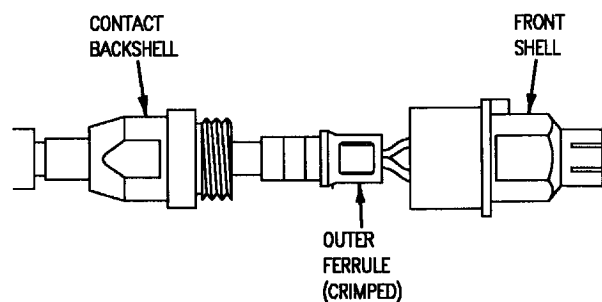
g. Crimp contacts onto conductors using M22520/2-01 crimping tool with M22520/2-07 positioner at selector setting 3.



F/A-18-WRM-(399-7)02-CATI

Figure 39. 885-213-001 Twinax Assembly Procedure (Sheet 2)

h. Install contacts into front shell. Pull on conductors to make sure contact is locked in place after insertion.

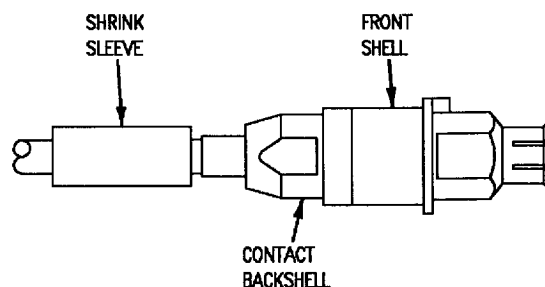


F/A-18-WRM-(399-8)02-CATI



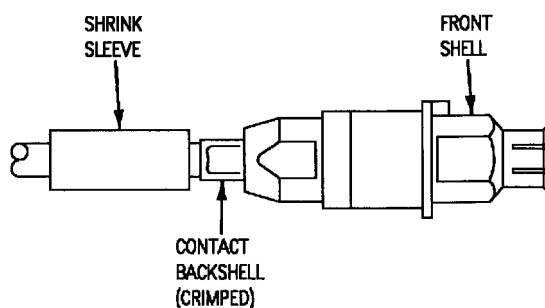
Hold front shell stationary and rotate backshell until it is finger tight to prevent wire and connector damage.

i. Slide backshell forward and rotate clockwise to engage threads of front shell, using BT-ST-751 torque wrench (tool location 720), torque to 3 to 10 inch-pounds.



F/A-18-WRM-(399-9)02-CATI

j. Crimp backshell using M22520/5-01 crimp tool with M22520/5-11 die set cavity A.



F/A-18-WRM-(399-10)02-CATI

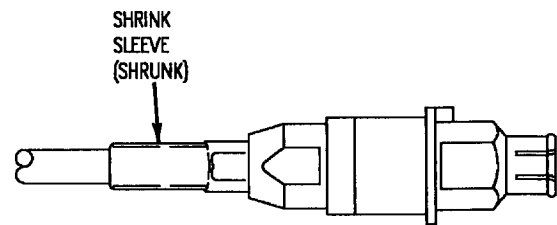
Figure 39. 885-213-001 Twinax Assembly Procedure (Sheet 3)

WARNING

To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

k. Slide M23053/5 sleeving over crimped area and heat shrink with heat tool and nitrogen servicing unit.



F/A-18-WRM-(399-11)02-CAT1

Figure 39. 885-213-001 Twinax Assembly Procedure (Sheet 4)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE

WIRING REPAIR WITH PARTS DATA

TYS06RK-XX-XXXX AND TVS07RK-XX-XXXX

CONNECTOR REPAIR

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Protective Boot Installation for Environmental Type Connectors With Metal Cable Clamps	WP080 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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
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
Record of Applicable Technical Directives

None

Reference Designation to
Figure Number Index

Reference Designation	Figure No.
 1 2J-P015	27
 2 2J-P015	29 (WP168 00)

Reference Designation to
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 1 22J-S027	33
 2 22J-S027	21 (WP168 00)

Reference Designation to Figure Number Index (Continued)

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1 22J-S030	24
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1 24P-N006	22
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1 4P-P009	22
2 4P-P009	34 (WP168 00)
1 4P-P010	22
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1 52J-P125	26
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1 52J-R102	31
2 52J-R102	33 (WP168 00)
1 52J-R104	28
2 52J-R104	30 (WP168 00)
1 52J-R124	21
2 52J-R124	23 (WP168 00)
1 52J-T108	28
2 52J-T108	30 (WP168 00)
1 52P-P103	28
2 52P-P103	30 (WP168 00)
1 52P-P105	28
2 52P-P105	30 (WP168 00)
1 52P-P125	25
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1 52P-R104	29
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2 52P-R124	24 (WP168 00)
1 52P-S112	28
2 52P-S112	30 (WP168 00)
1 52P-T108	29
2 52P-T108	31 (WP168 00)

LEGEND

1	161353 THRU 161761.
2	161924 AND UP.

1. DESCRIPTION.

2. TVS Series connectors are TVS06 Series and TVS07 Series. TVS06 Series connectors are electrical, environmental resistant, circular, threaded coupling, rear release crimp contact firewall, triple start connectors. TVS07 Series

connectors are electrical, environmental resistant, circular, threaded coupling rear release crimp contact multiple conductor connectors.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

4. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

5. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

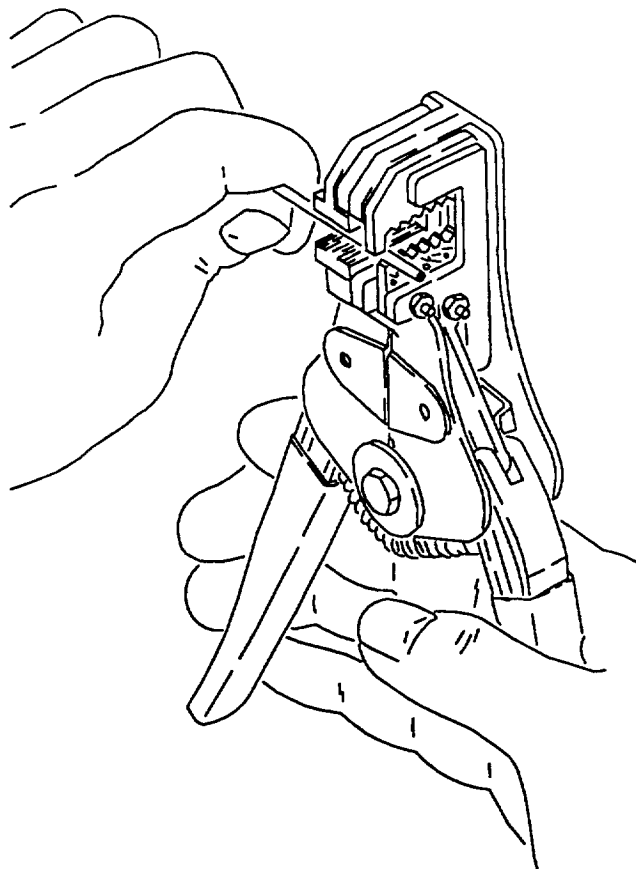
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

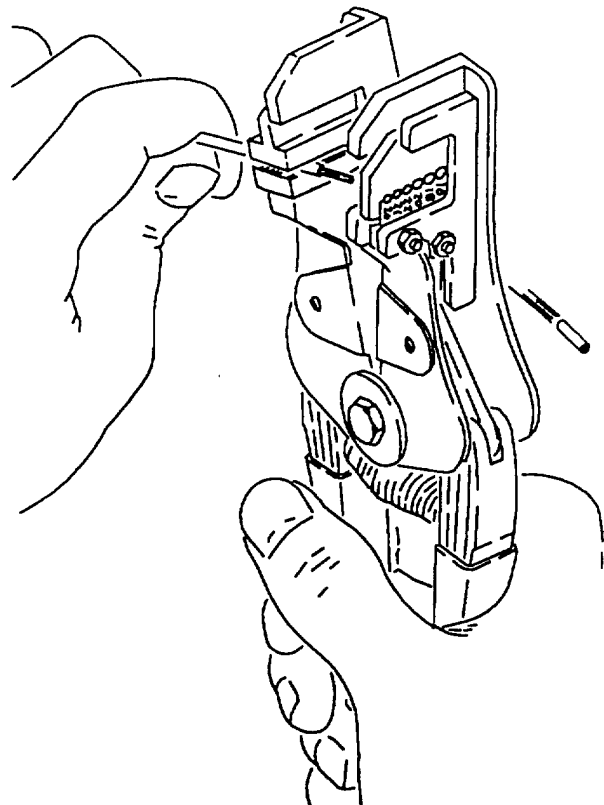
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.



F/A-18-WRM-(401-1)01-SCAN

Figure 1. Placing Wire in Slot of Stripping Tool

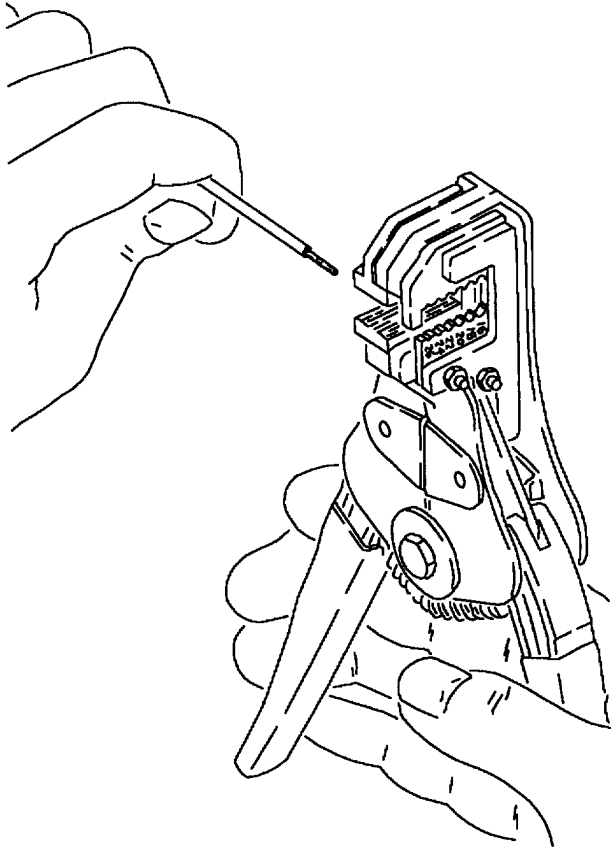
e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.

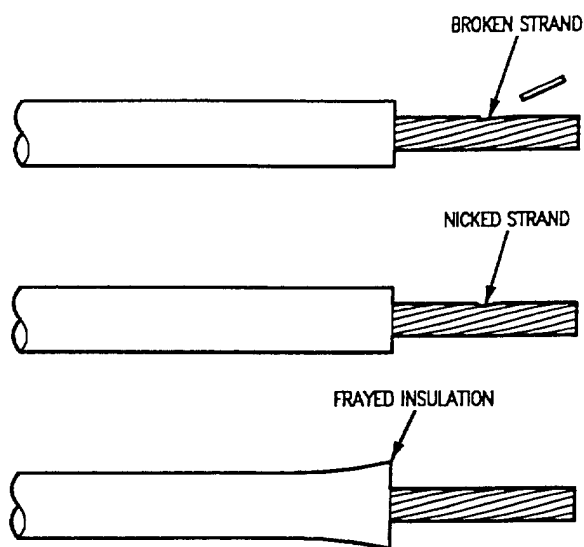


F/A-18-WRM-(403-1)01-SCAN

Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 4. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

8. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

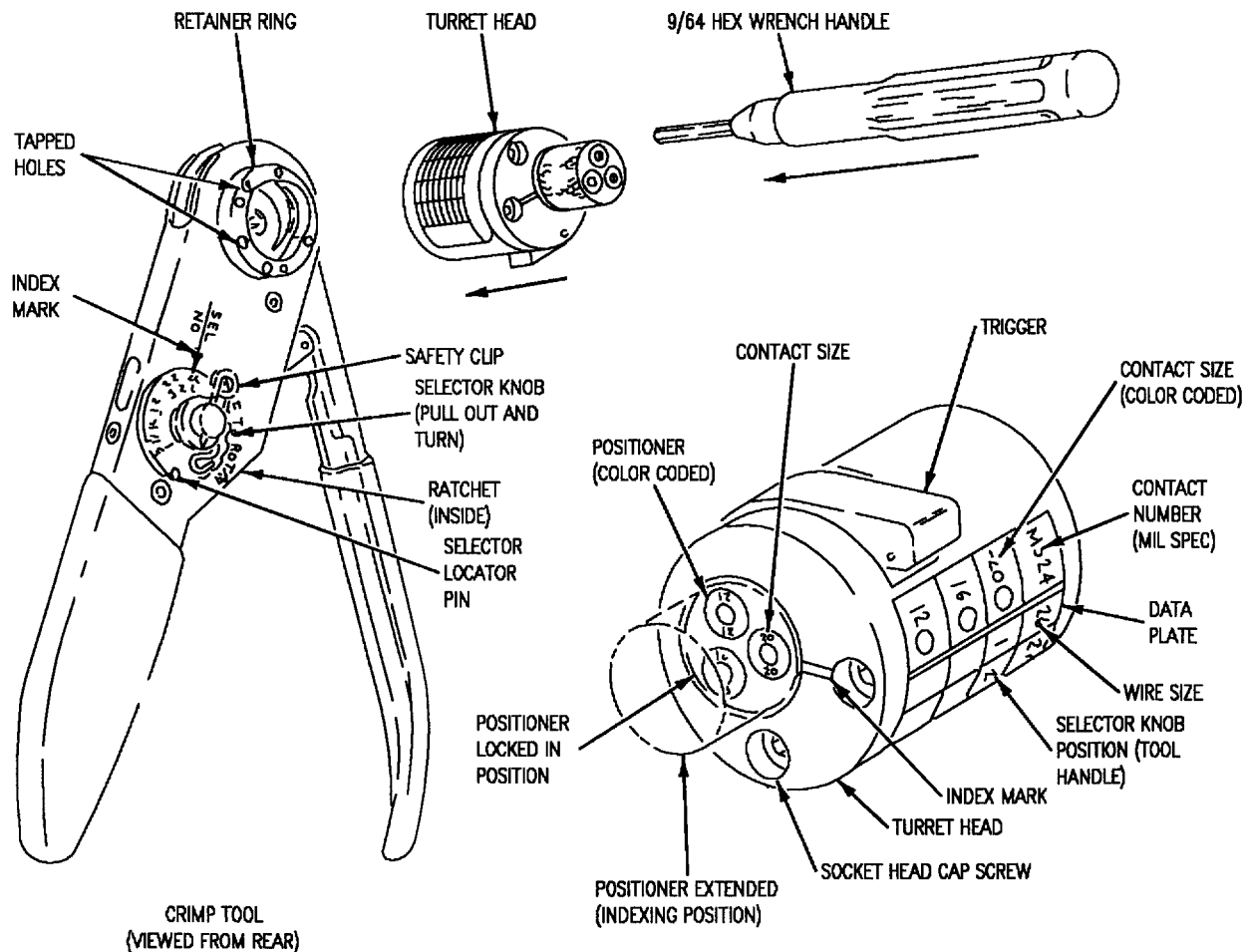
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 5.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 5. M22520/1-01 Crimp Tool Handle and Turret Head

9. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

10. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

11. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

12. REMOVAL AND INSTALLATION OF POSITIONER.

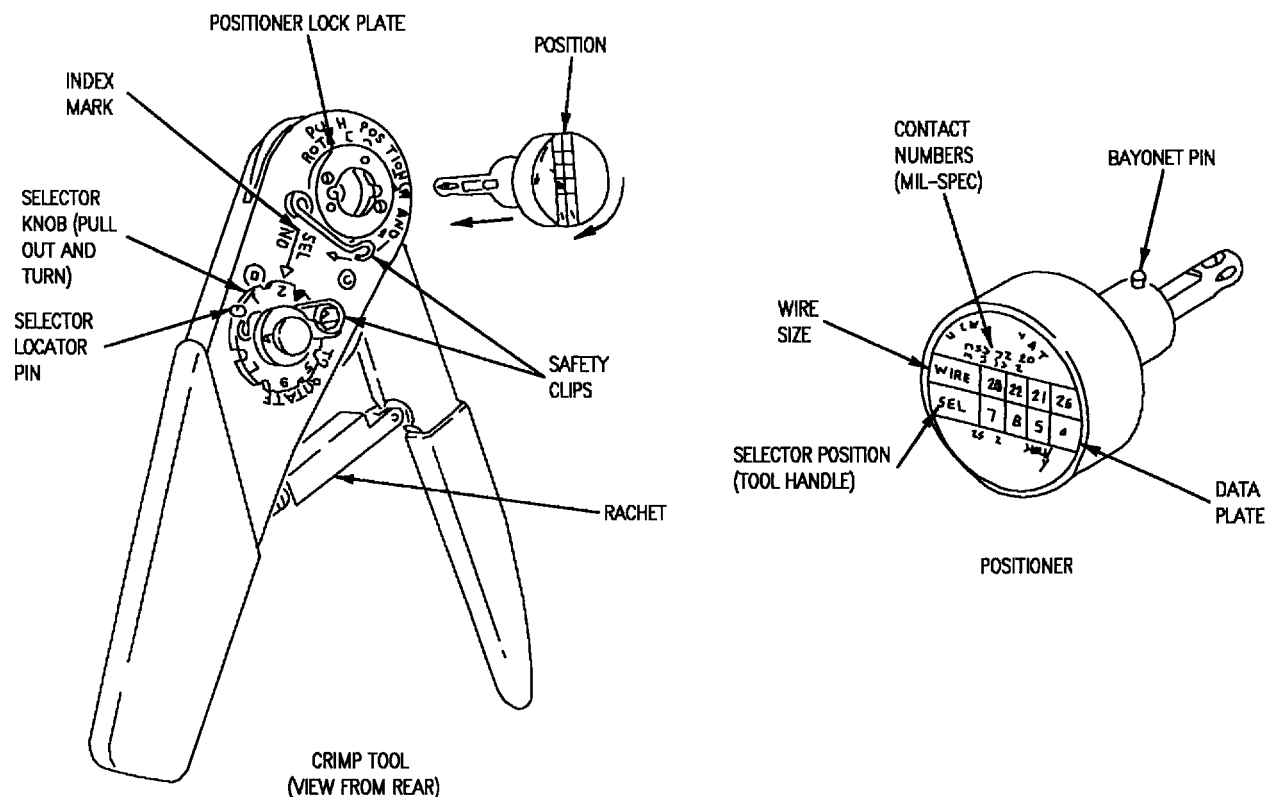
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 6.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 6. M22520/2-10 Crimp Tool Handle and Positioner

13. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

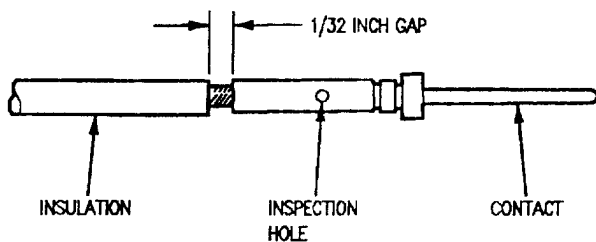
c. Install safety clip.

14. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 7.



F/A-18-WRM-(416-1)01-SCAN

Figure 7. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 8, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

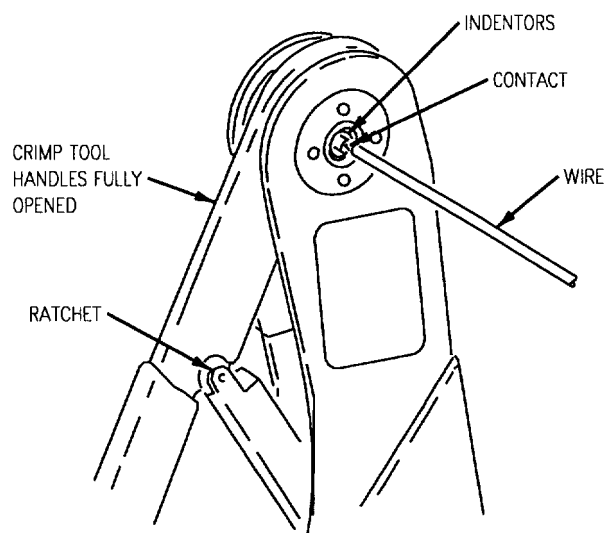
e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 8, detail B.

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 9.

(1) Two series of four indents shall grip wire and secure contact to wire.

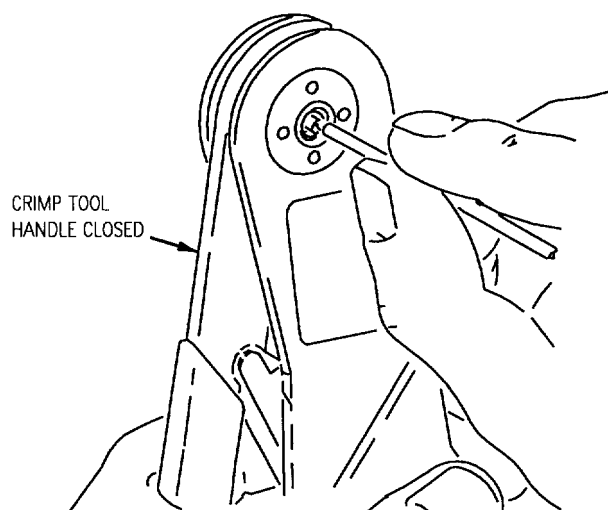
(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



CRIMP TOOL
(VIEWED FROM FRONT)

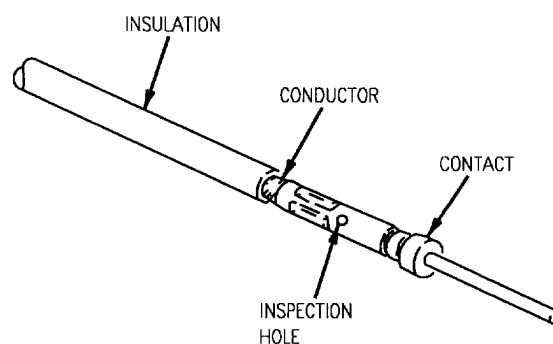
DETAIL A



DETAIL B

F/A-18-WRM-(407-1)01-CAT1

Figure 8. Contact Crimping



F/A-18-WRM-(W168-1)01-CAT1

Figure 9. Inspection of Crimped Contact

15. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

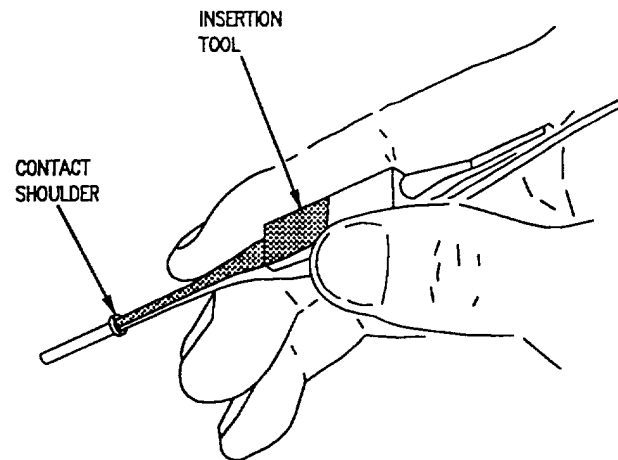
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 10.

CAUTION

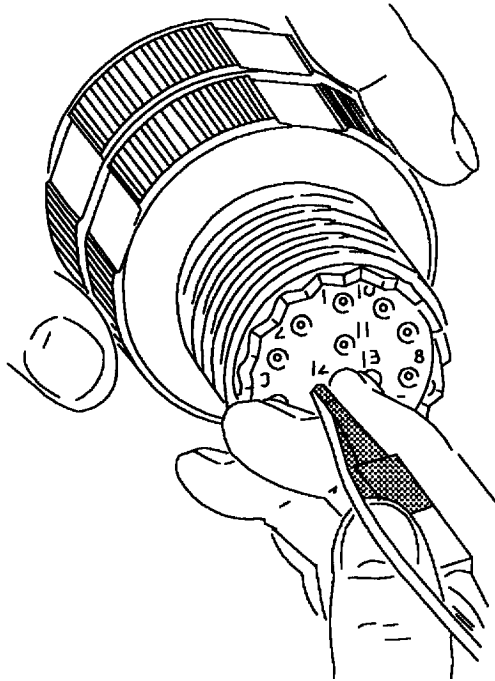
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(W150-12)01-SCAN

Figure 10. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 11.

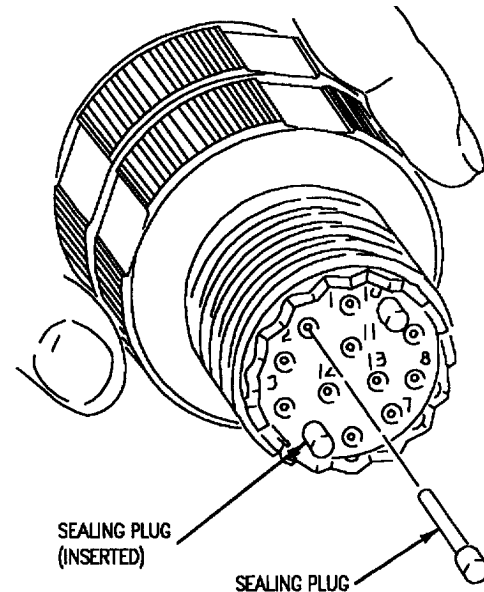


F/A-18-WRM-(553-1)02-SCAN

Figure 11. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 12.



F/A-18-WRM-(533-2)02-SCAN

Figure 12. Inserting Sealing Plug(s) into Connector

16. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

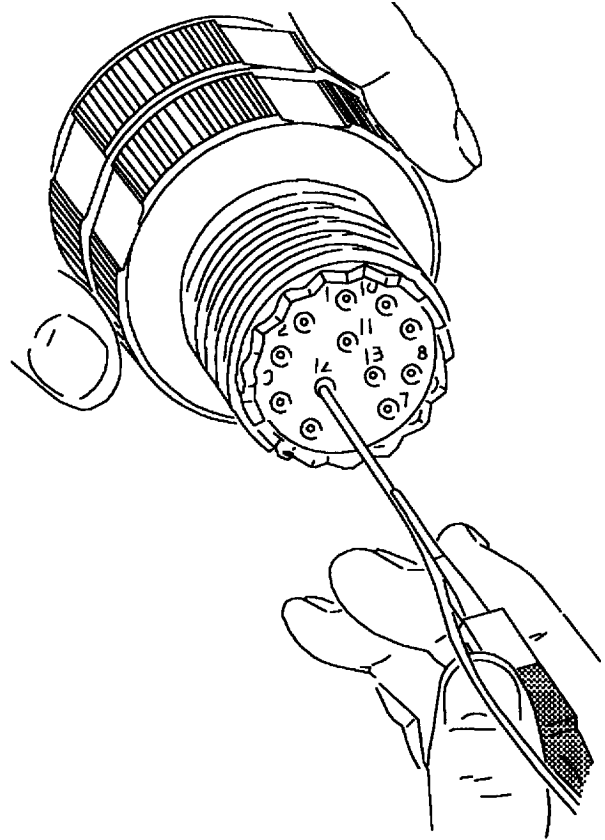
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

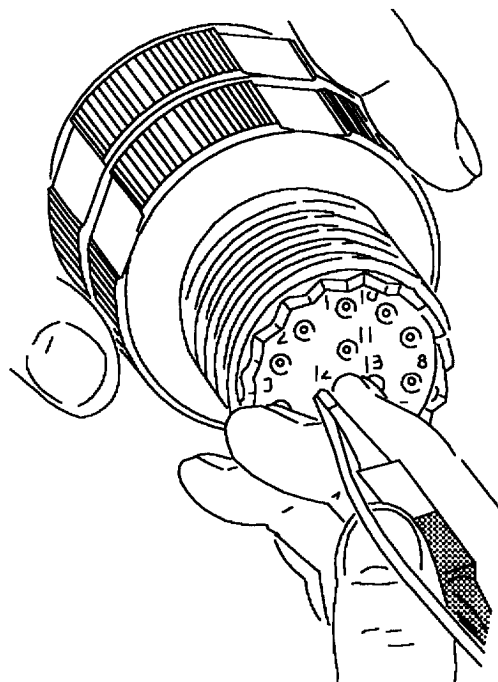
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 13.



F/A-18-WRM-(553-3)02-SCAN

Figure 13. Removal Tool on Wire

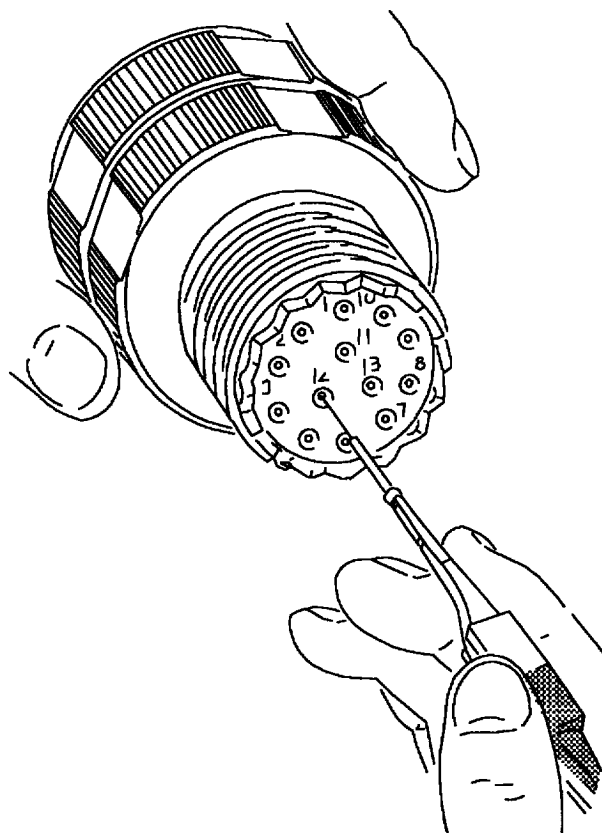
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 14.



F/A-18-WRM-(533-4)02-SCAN

Figure 14. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 15.



F/A-18-WRM-(533-5)02-SCAN

Figure 15. Removing Contact from Connector

17. UNWIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

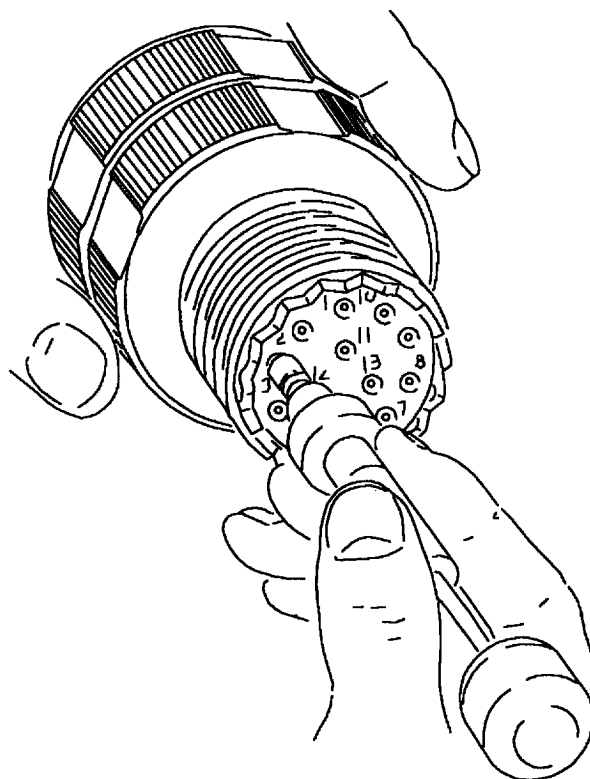
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

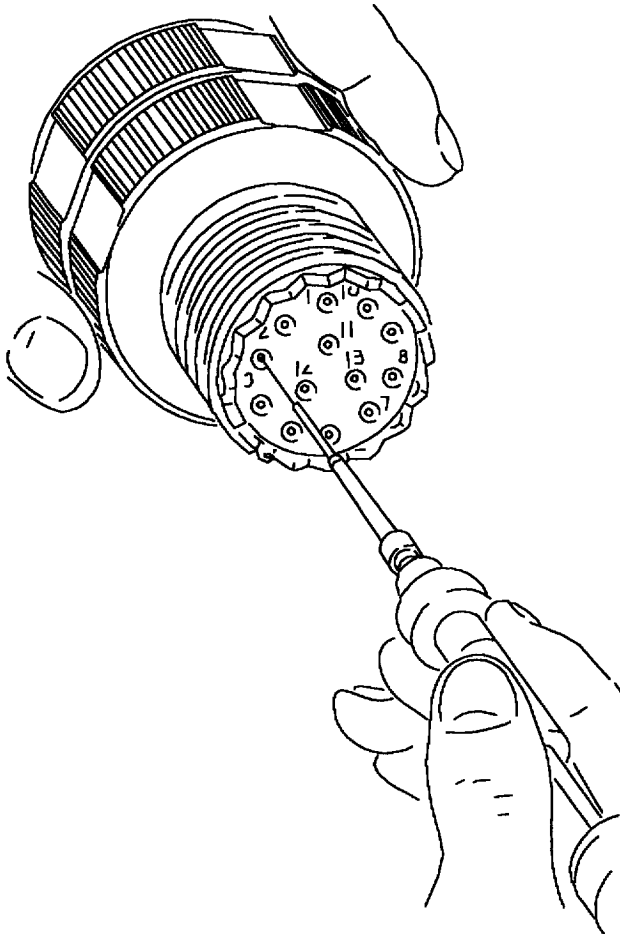
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 16.



F/A-18-WRM-(533-6)02-SCAN

Figure 16. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 17.



F/A-18-WRM-(533-7)02-SCAN

Figure 17. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

18. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

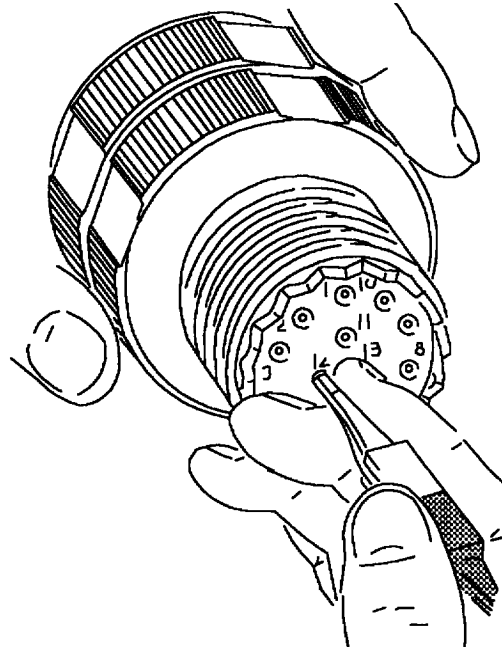
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.

CAUTION

Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 18.



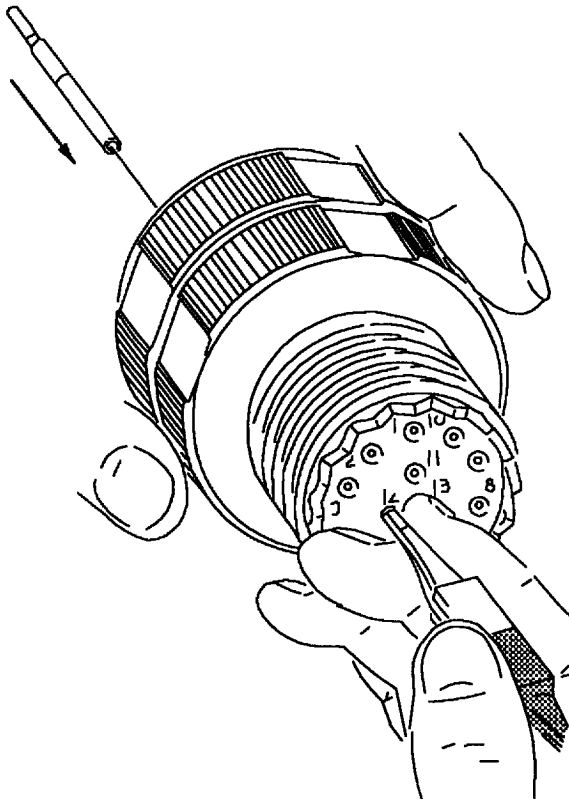
F/A-18-WRM-(533-8)02-SCAN

Figure 18. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into and over contact. Additional rotation may be broken if strands are encountered.

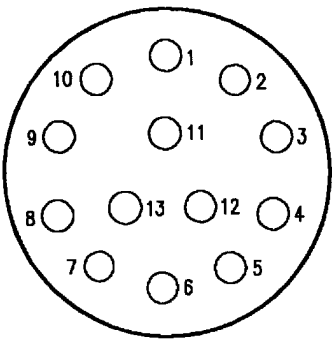
i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 19.



F/A-18-WRM-(533-9)02-SCAN

**Figure 19. Broken Wire Contact
Removal**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-13)01-CAT1

Reference Designation to Backshell Data Index for TVS06RK-11-35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-R124	G7925-11	060 00
 161353 THRU 161761.		

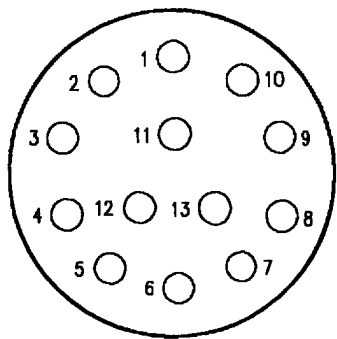
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/56-348	MS27488-22

Figure 20. TVS06RK-11-35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(911-13)01-CATI

Reference Designation to Backshell Data Index for TVS07RK-11-35PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-R124	G7925-11	061 00
2 52J-R124	G7925-13	061 00
2 52J-R124 Adapter	S2163-6567-30S	061 00
1 161353 THRU 161521.		
2 161522 THRU 161761.		

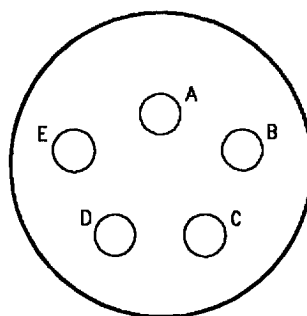
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	5/32	M39029/58-360	MS27488-22

Figure 21. TVS07RK-11-35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-5)01-CAT1

Reference Designation to Backshell Data Index for TV S06RKB98SA Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 24P-M002	S1842-65-30S	080 00
1 24P-N006	S1841-65-30S	080 00
1 24P-N021	S1841-65-30S	080 00
1 24P-P003	S1841-65-30S	08000
1 24P-P005	S1841-65-30S	080 00
1 24P-P007	S1841-65-30S	080 00
1 24P-R004	S1841-65-30S	080 00
1 24P-S009	G7925-11	061 00
1 24P-T008	G7924-11-1	061 00
1 24P-T010	G7925-11	061 00
1 161353 THRU 161761.		

Reference Designation to Backshell Data Index for TVS06RKB98SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 4P-P009	G7924-13	061 00
2 4P-P009	G7924-11-1	061 00
1 4P-P010	G7925-13	061 00
2 4P-P010	G7925-11	061 00
1 4P-P021	G7924-13	061 00
2 4P-P021	G7924-11-1	061 00
1 4P-R015	G7924-13	061 00
2 4P-R015	G7924-11-1	061 00
1 4P-R016	G7924-13	061 00
2 4P-R016	G7924-11-1	061 00
1 4P-R022	G7924-13	061 00
2 4P-R022	G7924-11-1	061 00
4P-S011	None	None
4P-S013	None	None
4P-S014	None	None
4P-T017	None	None

Figure 22. TVS06RKB98SA and TVS06RKB98SN Connectors (Sheet 1)

**Reference Designation to Backshell Data Index for TVS06RKB98SN Connector
(Continued)**

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
4P-T019	None	None
4P-T020	None	None
<div>1 161522 THRU 161761.</div> <div>2 161353 THRU 161521.</div>		

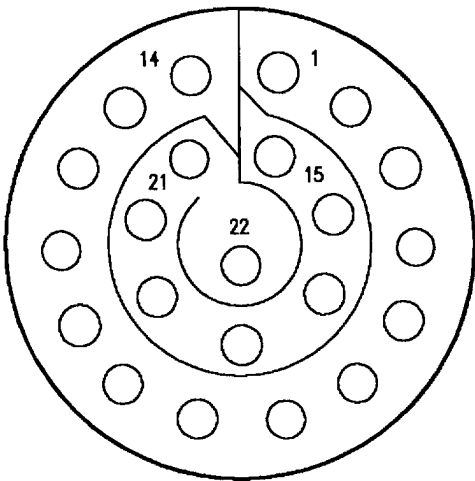
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-04
Insertion Tool (Red)	M81969/14-02
Removal Tool (White)	M81969/14-02
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	5/32	M39029/56-351	MS27488-20

Figure 22. TVS06RKB98SA and TVS06RKB98SN Connectors (Sheet 2)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-22)01-CATI

Reference Designation to Backshell Data Index for TVS06RK-13-35SN Connector



REFERENCE WORK PACKAGE	BACKSHELL	REFERENCE WORK PACKAGE
 22P-P030	G7925-13	061 00
 161353 THRU 161761.		

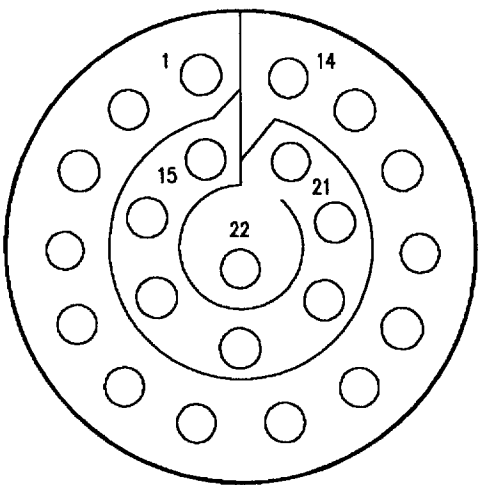
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M2252012-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/56-348	MS27488-22

Figure 23. TVS06RK-13-35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(913-22)01-CATI

Reference Designation to Backshell Data Index for TVS07RK-13-35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 22J-S030	G7924-13	061 00
 161353 THRU 161761.		

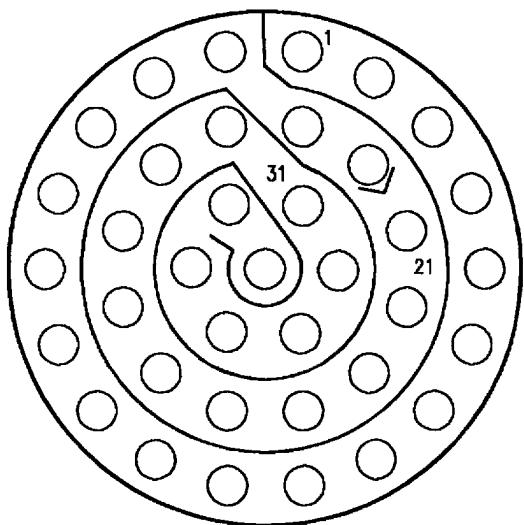
Table 1. Tool Data

ITEM	TOOL CASE LOCATION
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 22	5/32	M39029/58-360	MS27488-22

Figure 24. TVS07RK-13-35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(815-37)01-CAT1

Reference Designation to Backshell Data Index for TVS06RK-15-35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-P125	G7925-15	061 00
 161353 THRU 161761		

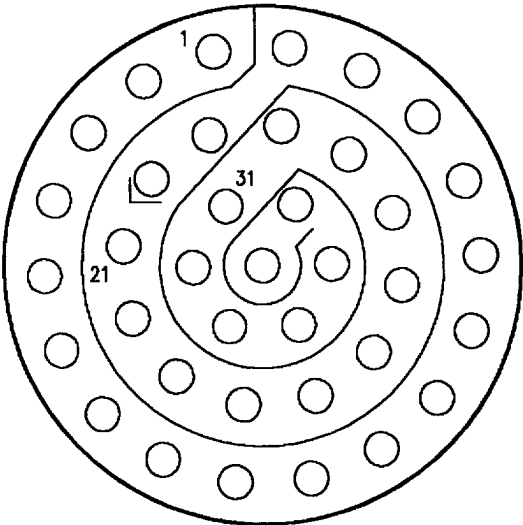
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/56-348	MS27488-22

Figure 25. TVS06RK-15-35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(915-37)01-CATI

Reference Designation to Backshell Data Index for TVS07RK-15-35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-P125	G7925-15	061 00
 161353 THRU 161761.		

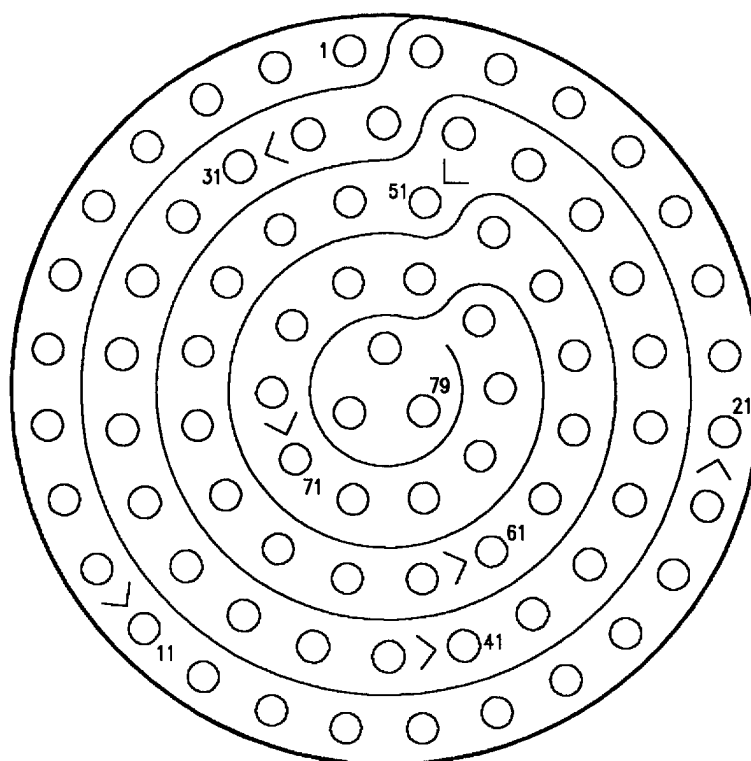
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 37	5/32	M39029/58-360	MS27488-22

Figure 26. TVS07RK-15-35PN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(921-79)01-CAT1

Reference Designation to Backshell Data Index for TVS06RKG35PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-P103	G7925-21	061 00
1 52P-P105	G7925-21	061 00
1 52P-S112	G7924-21	061 00
1 161353 THRU 161761.		

Reference Designation to Backshell Data Index for TVS07RK-21-35PN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52J-R104	G7925-21	061 00
1 52J-T108	G7925-21	061 00
1 161353 THRU 161761		

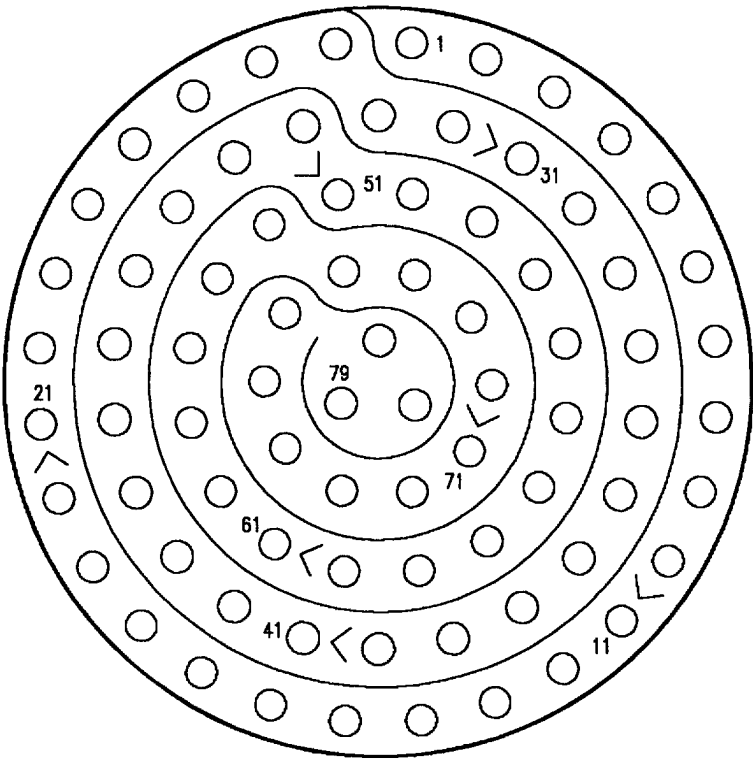
Figure 28. TVS06RK-21-35PN and TVS07RKG35PN Connectors (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	7/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(821-79)01-CAT1

Reference Designation to Backshell Data Index for TVS06RK-21-35SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
1 52P-R104	G7925-21	061 00
1 52P-T108	S1841-72-30S	080 00
1 161353 THRU 161761.		

Reference Designation to Backshell Data Index for TVS07RK-21-35SN Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
3 52J-P103	S1841-72-30S	080 00
3 52J-P105	G7925-21	061 00
1 52J-P112	S1841-72-30S	080 00
2 52J-P112	S1842-72-30S	080 00
1 F/A-18A 161353 THRU 161705, F/A-18B 161354 THRU 161707		
2 F/A-18A 161706 THRU 161761, F/A-18B 161711 THRU 161746		
3 161353 THRU 161761.		

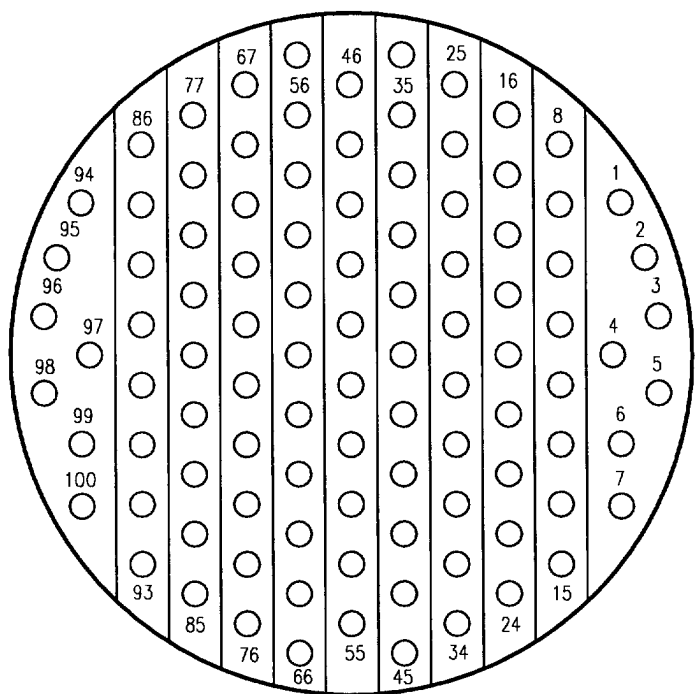
Figure 29. TVS06RK-21-35SN and TVS07RK-21-35SN Connectors (Sheet 1)

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 79	7/32	M39029/56-348	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(923-35)01-CATI

Reference Designation to Backshell Data Index for TVS06RK-23-35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-R102	G7925-23	061 00
 161353 THRU 161761.		

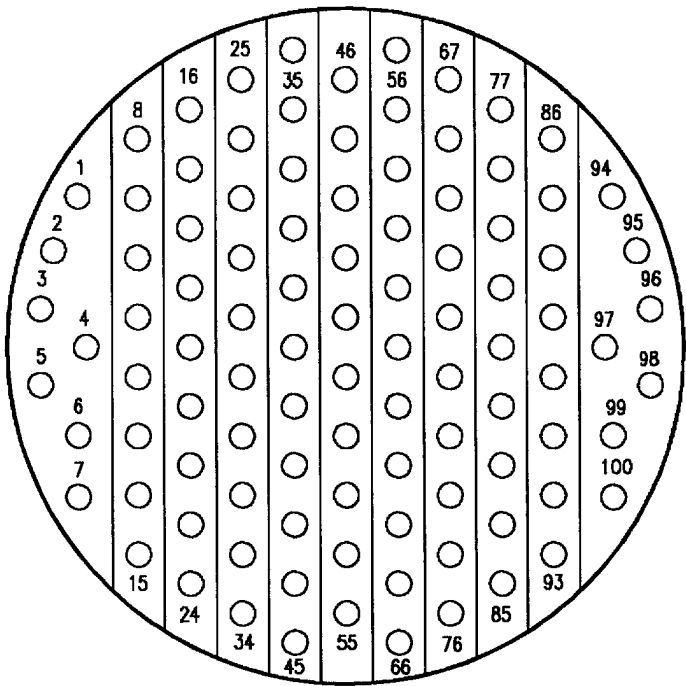
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 30. TVS06RK-23-35PN Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	5/32	M39029/58-360	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(823-35)01-CATI

Reference Designation to Backshell Data Index for TVS07RK-23-35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-R102	S1841-74-30S	080 00
 161353 THRU 161761.		

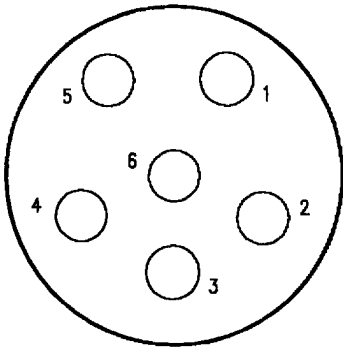
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Figure 31. TVS07RK-23-35SN Connector (Sheet 1)

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 100	5/32	M39029/56-348	MS27488-22



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(809-6)01-CAT1

Reference Designation to Backshell Data Index for TVS06RK-9-35SN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 22P-S027	G7924-9-1	061 00
 161353 THRU 161761.		

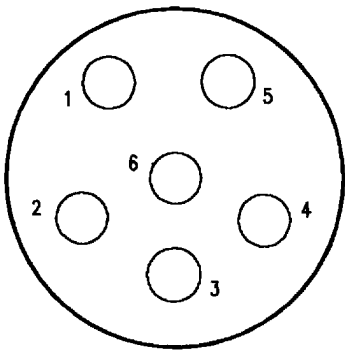
Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-07
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/56-348	MS27488-22

Figure 32. TVS06RK-9-35SN Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(909-6)01-CATI

Reference Designation to Backshell Data Index for TVS07RK-9-35PN Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 22J-S027	S1842-64-30S	080 00
 161353 THRU 161761.		

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-09
Insertion Tool (Green)	M81969/14-01
Removal Tool (White)	M81969/14-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Yellow)	DRK105-22M-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 6	5/32	M39029/58-360	MS27488-22

Figure 33. TVS07RK-9-35PN Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****GA121-1****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair with Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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
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Record of Applicable Technical Directives

None

Reference Designation to Figure Number Index		Support Equipment Required	
Reference Designation	Figure No.	Part Number or Type Designation	Nomenclature
76J-H016	27	3308AS100	Repair Set-Wire and Connector
 76J-K031	27		

LEGEND F/A-18B

1. DESCRIPTION.

2. The GA121-1 lanyard connector is a snap on quick release circular connector with solder pins.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

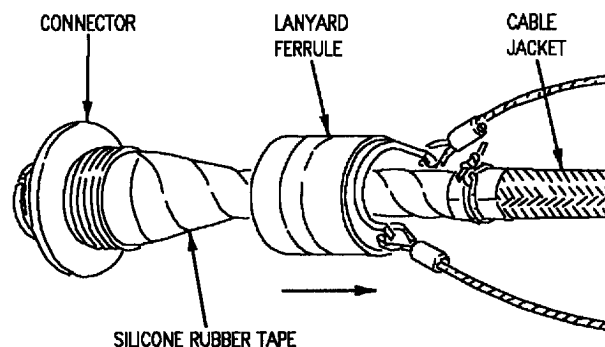
Materials Required

Specification or Part Number	Nomenclature
MIL-I-23594, TYPE 2, 1/2IN.WIDE	Insulation Tape
See Table 1	Silicone Rubber Tape
See Table 2	Wire Mesh Tape
MIL-S-8516 TYPE 1 CLASS 3	Sealing Compound
EC 1945 B/A	Primer
TETRAETCH 20 ZBT	Etching Solution
TT-I-735 GRADE B	Isopropyl, Alcohol
SN60WRMAP2-0-040	Solder

4. **DISASSEMBLY PROCEDURE.****CAUTION**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

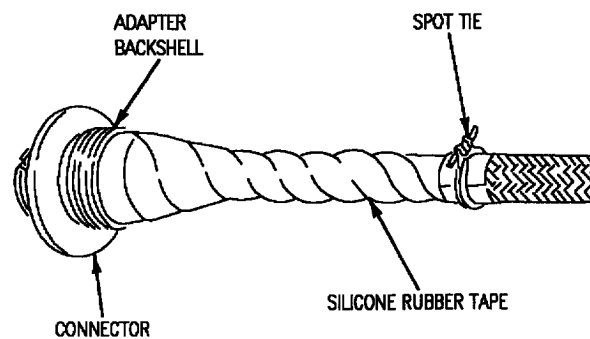
a. Remove lanyard ferrule and slide back on cable jacket, if required, use BT389S-10 adapter to hold connector and BT-BS-60 strap wrench to remove lanyard ferrule. See figure 1.



F/A-18-WRM-(680-1)02-SCAN

Figure 1. Removing Lanyard Ferrule

b. Remove spot tie. See figure 2.



F/A-18-WRM-(680-14)02-SCAN

Figure 2. Cutting Spot Tie

c. Remove silicone rubber tape from bundle assembly. See figure 3.

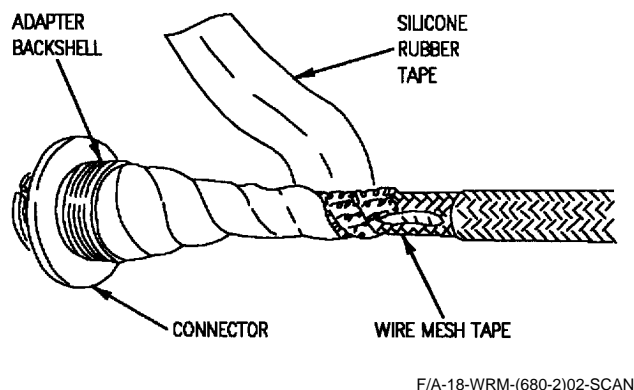


Figure 3. Removing Silicone Rubber Tape From Wire Mesh Tape

d. Remove insulation tape. See figure 4.

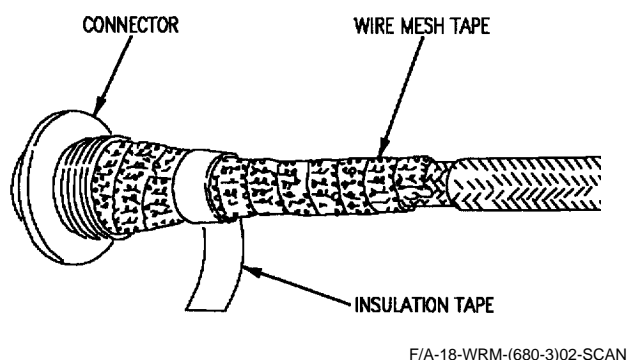


Figure 4. Removal of Insulation Tape from Wire Mesh Tape

e. Remove wire mesh tape and unsolder from metal braid and EMI ground wire using soldering iron. See figure 5.

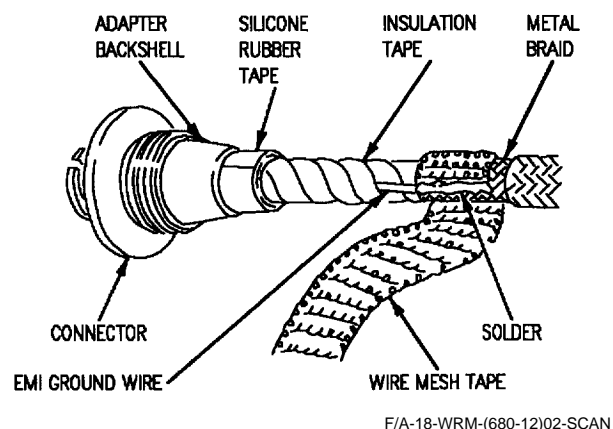


Figure 5. Removal of Wire Mesh Tape

f. Remove silicone rubber tape. See figure 6.

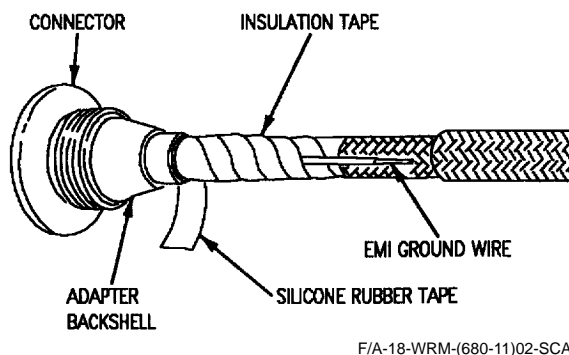


Figure 6. Removal of Silicone Rubber Tape Buildup

g. Remove insulation tape. See figure 7.

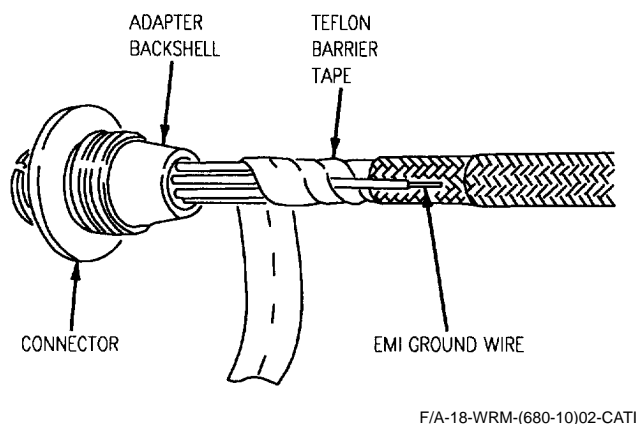


Figure 7. Removal of Silicone Adhesive Teflon Tape from Wires



When removing adapter backshell use care not to damage connector.

h. Remove adapter backshell from connector, if required use adapter BT389S-10 to hold connector and BT-BS-60 strap wrench to remove adapter backshell, slide adapter backshell onto cable jacket. See figure 8.

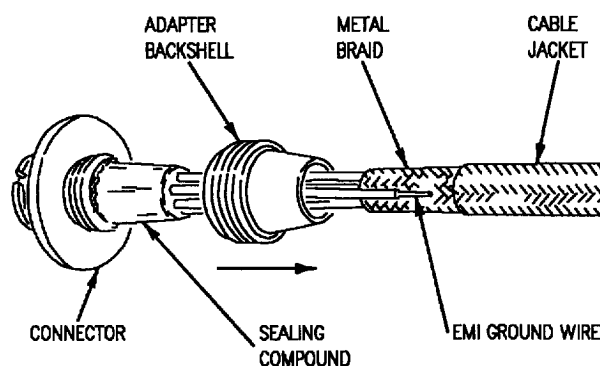


Figure 8. Removing Adapter Backshell



Remove sealing compound with wooden spatula or pick to prevent connector or wire damage.

i. Remove sealing compound and unsolder wires from connector using soldering iron. See figure 9.

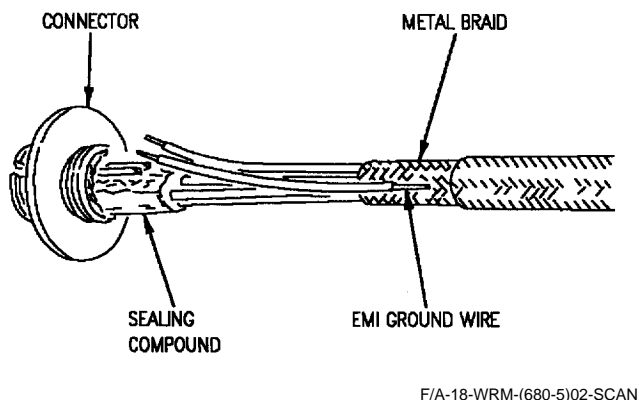


Figure 9. Removing Sealing Compound and Wires

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

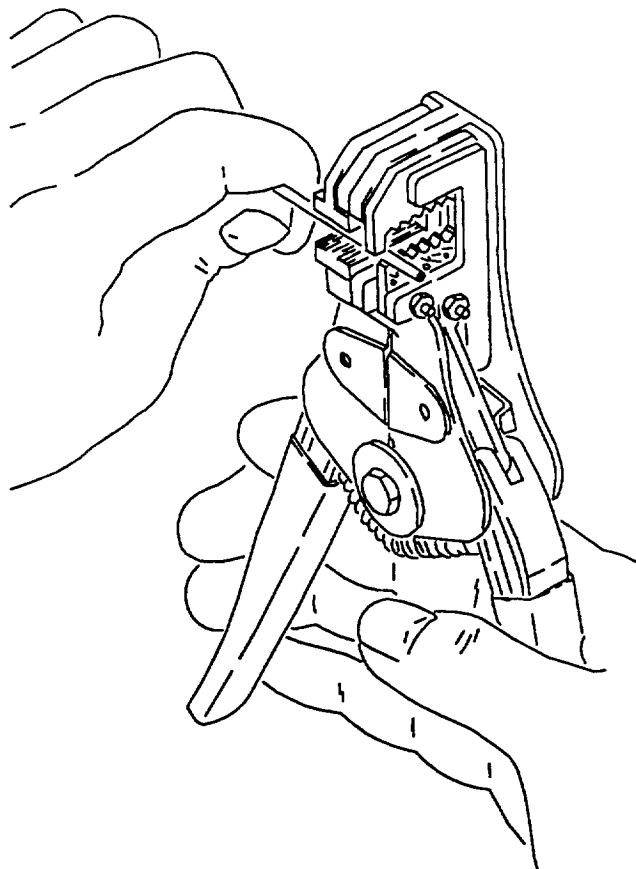
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

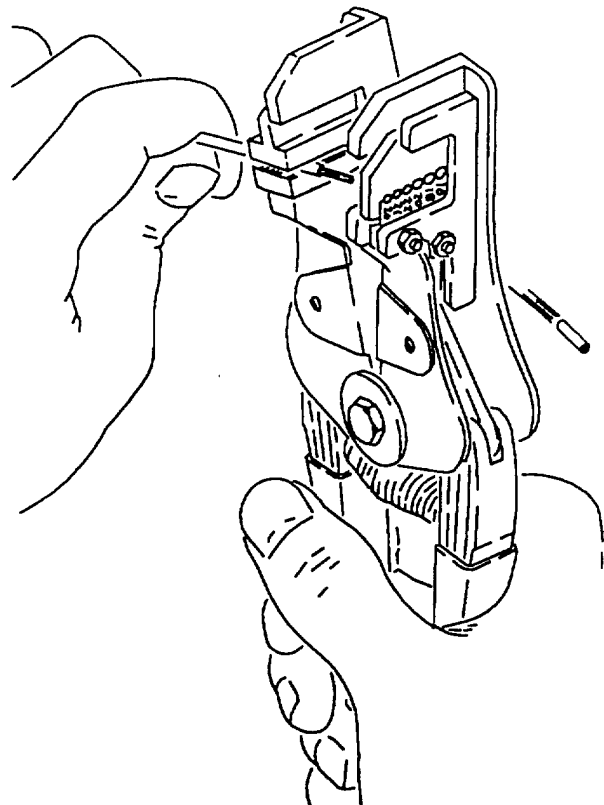
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 10.



F/A-18-WRM-(401-1)01-SCAN

Figure 10. Placing Wire in Slot of Stripping Tool

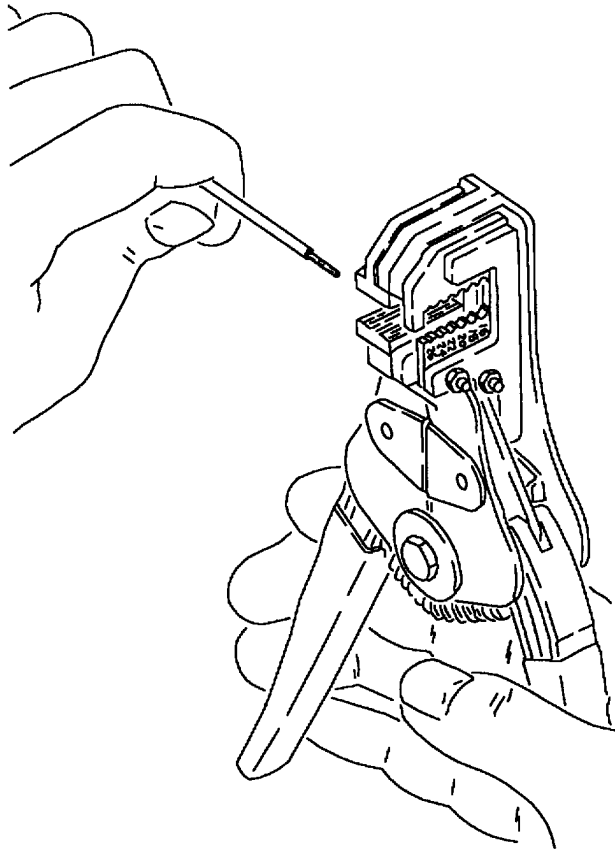
e. Close handles together as far as they will go. See figure 11.



F/A-18-WRM-(402-1)01-SCAN

Figure 11. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 12.

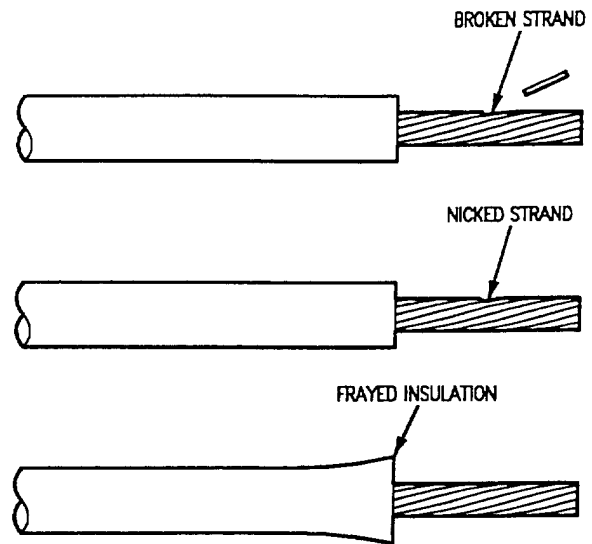


F/A-18-WRM-(403-1)01-SCAN

Figure 12. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 13 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 13. Unacceptable Conditions

7. SOLDERING.

8. Soldering provides a mechanical and electrical bond between metallic components. To get a good solder joint, all surfaces must be clean. The soldering iron must be clean and tinned with a thin layer of solder to conduct heat. Excessive solder on the soldering iron tip may cause solder to splash on nearby components. A damp cloth can be used to wipe excess solder and residue from soldering iron tip.

9. Tinning Wires

a. Clean and tin soldering iron.

b. Make sure center conductor wires are twisted together in the same direction as the lay of wire.

c. Apply heat and solder to conductor. Remove heat when solder flows into conductor. Apply only enough solder to join wires together. Individual wires should be coated with solder yet their shape visible. See figure 14.

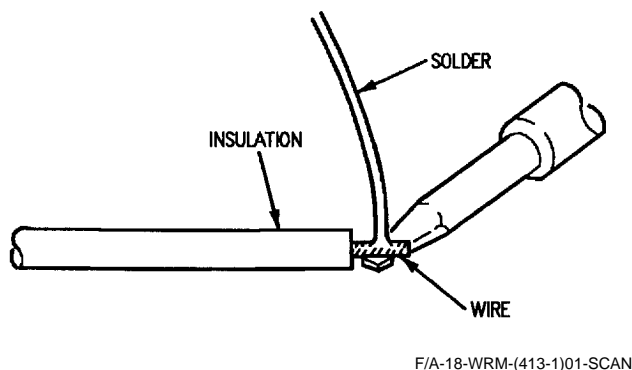


Figure 14. Tinning Wire

d. Conditions shown in figure 15 are unacceptable.

- (1) Individual wires not joined to center conductor
- (2) Excessive solder.
- (3) Damaged Insulation

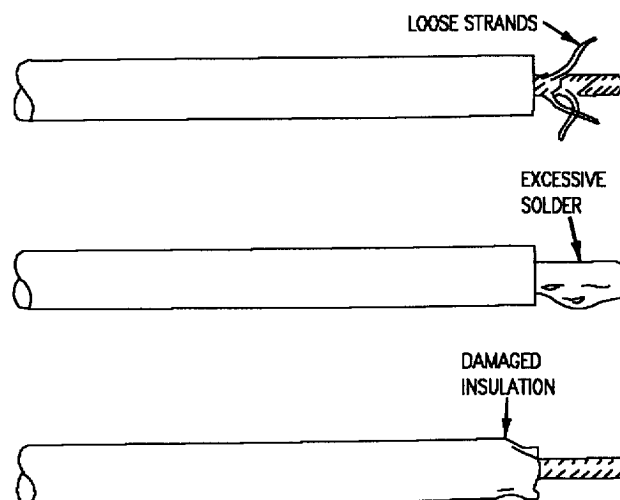
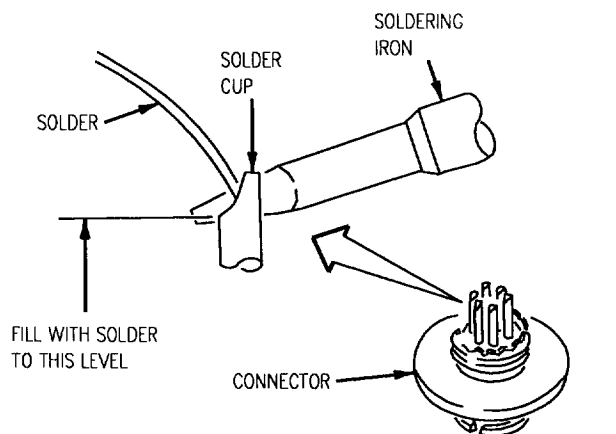


Figure 15. Unacceptable Conditions After Tinning

10. Soldering Wires In Connector.

- a. Clean and tin soldering iron.

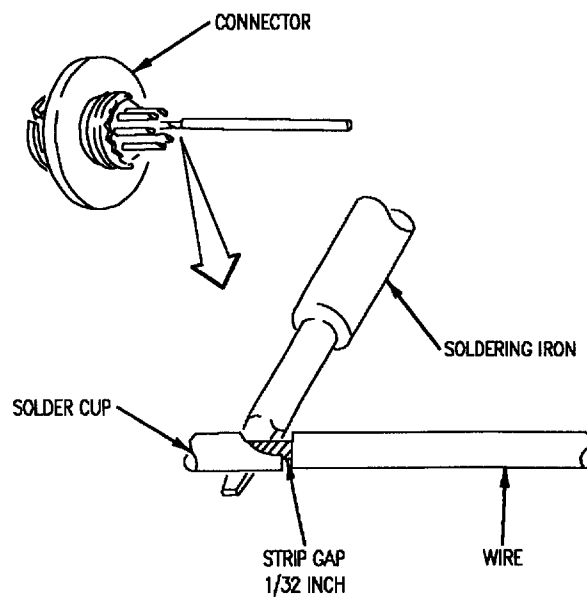
b. Apply heat to solder cup and fill cup with solder. Avoid getting solder on outside of solder cup. See figure 16.



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Figure 16. Filling Solder Cup

c. Position wire in solder cup and apply heat to solder cup. When solder melts, slide wire into solder cup. Remove heat as soon as solder flows between conductor and solder cup. Hold wire steady until solder hardens. See figure 17.

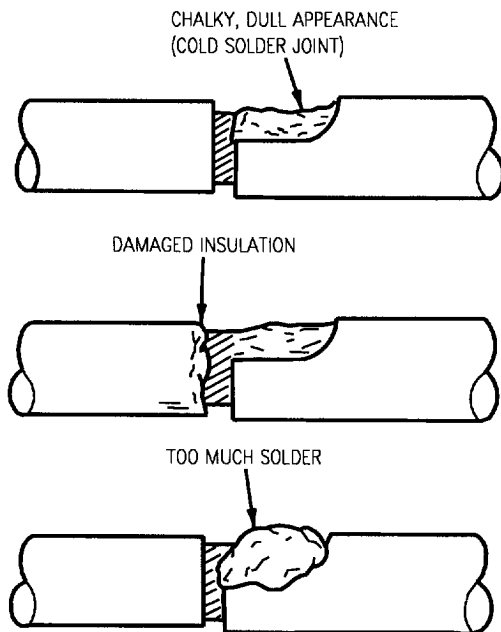


F/A-18-WRM-(680-7)02-SCAN

Figure 17. Soldering Wire into Solder Cup

d. Inspect solder joint. Solder should be shiny and flow smoothly from conductor to solder cup. Conditions shown in figure 18 are unacceptable.

- (1) Chalky, dull appearance (cold solder joint).
- (2) Damaged insulation.
- (3) Too much solder.



F/A-18-WRM-(412-1)01-CATI

Figure 18. Unacceptable Conditions after Soldering

11. REASSEMBLY PROCEDURE.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Clean wires with isopropyl alcohol. Allow them to air dry.

WARNING

Etching solution is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

- b. Using etching solution, etch wires approximately 1 inch or a minimum of 1/8-inch above adapter backshell when wires and the adapter backshell are assembled.

- c. After etching wires, neutralize solution on wires by washing in water. Allow wires to air dry.

- d. Slide lanyard ferrule and adapter backshell onto cable jacket.

NOTE

EMI ground wires connect to pin A.

e. Strip and tin wires, solder wires into connector using soldering iron. Refer to paragraph 7. See figure 19.

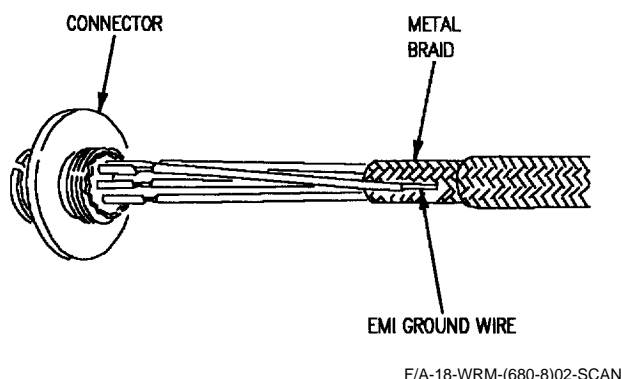


Figure 19. Soldering Wires in Connector

WARNING

Primer is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

f. Brush a thin layer of primer to wires where etched, connector rear face, contacts and inner surface of adapter backshell. Do not allow primer on threads of connector or backshell adapter.

g. Allow primer to air dry.

h. Install adapter backshell on connector, if required use BT389S-10 adapter to hold connector and BT-389S-10 strap wrench to install adapter backshell. See figure 20.

WARNING

Sealing compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

i. Fill adapter backshell with sealing compound, be sure there are no voids in sealing compound around wires or adapter backshell. See figure 20.

j. Allow sealing compound to cure at a temperature of 120° for 6 hours at 50 percent humidity or until tack free.

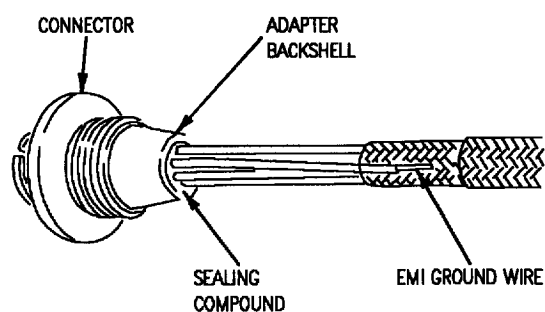
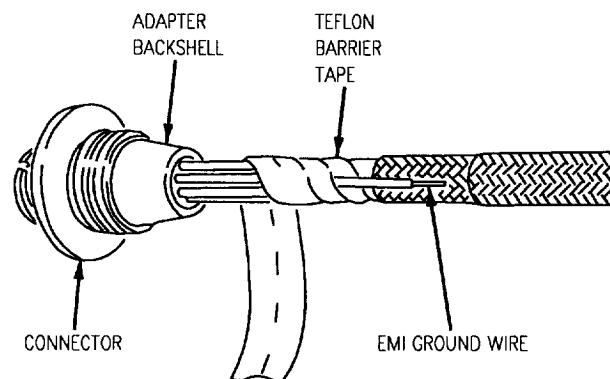


Figure 20. Installing Adapter Backshell and Sealing Compound

k. Wrap insulation tape around wires with EMI ground wire exposed and routed to metal braid. See figure 21.



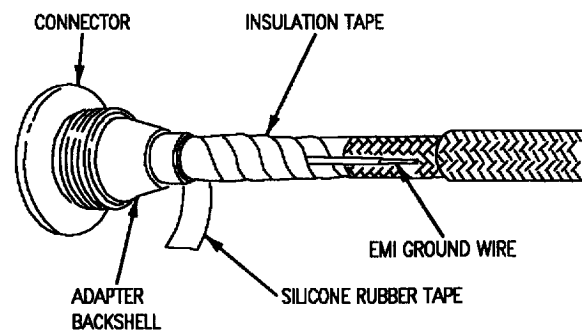
F/A-18-WRM-(680-10)02-CAT1

Figure 21. Wrapping Wires with Insulation Tape

Table 1. Silicone Rubber Tape

PART NUMBER	CAGE	WIDTH (INCH)
MIL-I-46852, TYPE 2, 1.000IN.BLK	81349	1.000
MS70T09-S	07099	1.000
SELF - BONDING TAPE COMES IN ROLLS COLOR- BLACK TEMPERATURE RANGE: -178° TO +500°F		

1. Wrap silicone rubber tape around insulation tape at adapter backshell to build up diameter of bundle to size of adapter backshell. See figure 22.



F/A-18-WRM-(680-11)02-SCAN

Figure 22. Buildup of Silicone Rubber Tape

Table 2. Wire Mesh Tape

PART NUMBER	CAGE	WIDTH (INCH) NOMINAL
23-50225	07700	1.000
TAPE COMES IN ROLLS OUTSIDE DIAMETER 3 INCHES TEMPERATURE RANGE -65° TO +300°F		

m. Install wire mesh tape and EMI ground wire on metal braid with soldering iron. See figure 23.

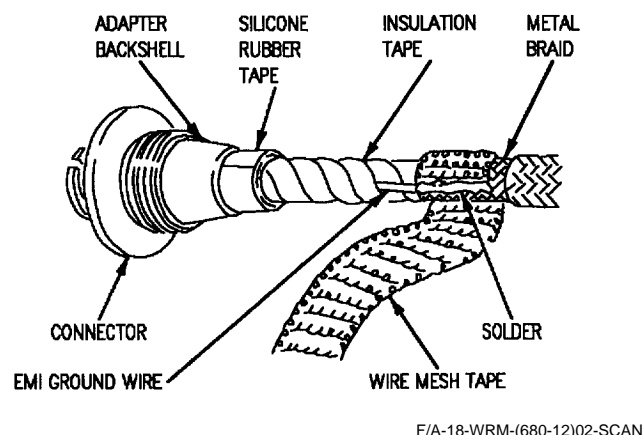


Figure 23. Soldering Wire Mesh Tape

n. Wrap wire mesh tape over bundle and secure with insulation tape. See figure 24.

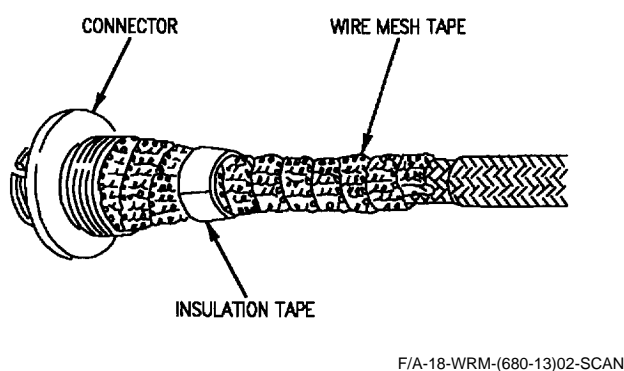


Figure 24. Wrapping Wire Mesh Tape

o. Wrap silicone rubber tape over bundle wire mesh tape and secure with spot tie. See figure 25.

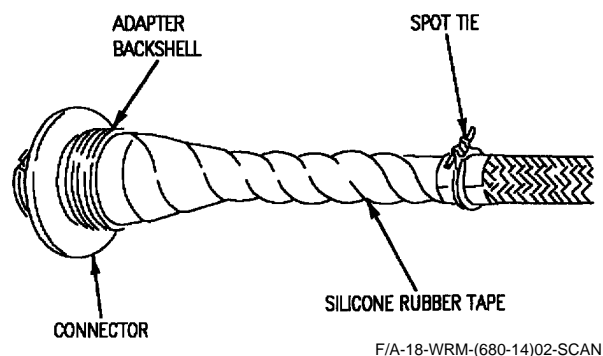


Figure 25. Wrapping Silicone Rubber Tape Over Wire Mesh Tape

p. Slide lanyard ferrule over adapter backshell and tighten, if required use BT389S-10 adapter to hold connector and BT-BS-60 strap wrench to install lanyard ferrule. See figure 26.

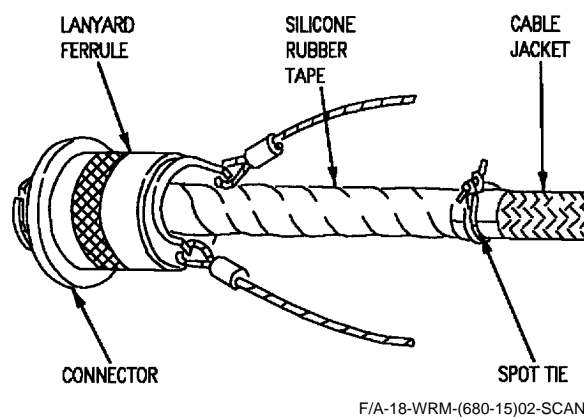
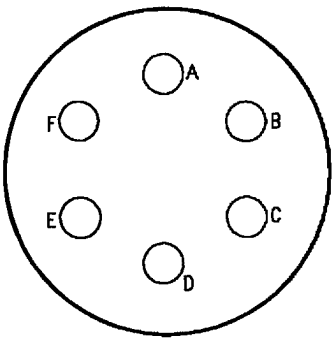


Figure 26. Installing Lanyard Ferrule



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(811-6A)01-CATI

Reference Designation to Backshell Data Index for GA121-1 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
76J-H016	None	This WP
76J-K031	None	This WP

Table 1. Tool Data

ITEM	TOOL NUMBER
Soldering Iron	W60-3

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F	1/8	N/A	N/A

Figure 27. GA121-1 Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****MS3116 (MIL-C-26482 SERIES 1)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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
Record of Applicable Technical Directives

None

Reference Designation to
Figure Number Index

Reference Designation	Figure No.
33P-J008	36
 33P -L018	36
61P-E009B	35

LEGEND

 F/A-18B

1. **DESCRIPTION.**

2. The MS3116 connectors are miniature, circular, quick-disconnect environmental-resisting connectors that meet the requirements of MIL-C-26482 series. They use bayonet couplings and are capable of withstanding operating temperatures from -67° to 257°F. The MS3116 connectors have nonremovable solder contacts and matched integrity keys and keyways in the connector shell to prevent engagement of contacts until they are correctly aligned.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

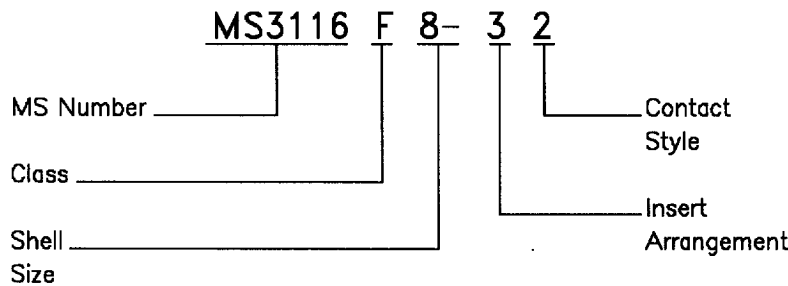
4. See figure 1 for a breakdown of the military part numbering system for MIL-C-26482, Series 1, connectors used on F/A-18 aircraft.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector
POM-106A-G	Oven-Curing Electric Class A (Shipboard)
POM-106A-F	Oven-Curing, Electric Class A (Shore based)
1317AS100-1	Nitrogen Servicing Unit-NAN-3

Materials Required

Specification or Part Number	Nomenclature
MIL-S-8516 Type 1 Class 3	Sealing Compound
EC 1945 BA	Primer, Adhesive
TETRAETCH20ZBT	Etching Solution
SN60WRMAP2-0-040	Solder
TT-I-735 GRADE B	Isopropyl, Alcohol
H-B-695 TYPE1 GRADEA	Brush Varnish
SIZE 1 1/2	
D101-22	Solder Sleeve
M22759/11-22-5	Shielding Jumper Wire
M22759/11-20-5	Shielding Jumper Wire

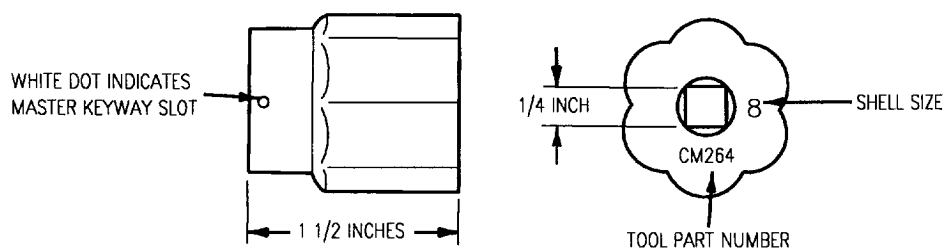


F/A-18-WRM-(500-17)01-CAT1

Figure 1. Military Part Numbering System for MIL-C-26482, Series 1, Connectors

5. **PROCEDURE.**6. **CM ADAPTER TOOLS.**

- a. CM adapter tool is shown in figure 2.



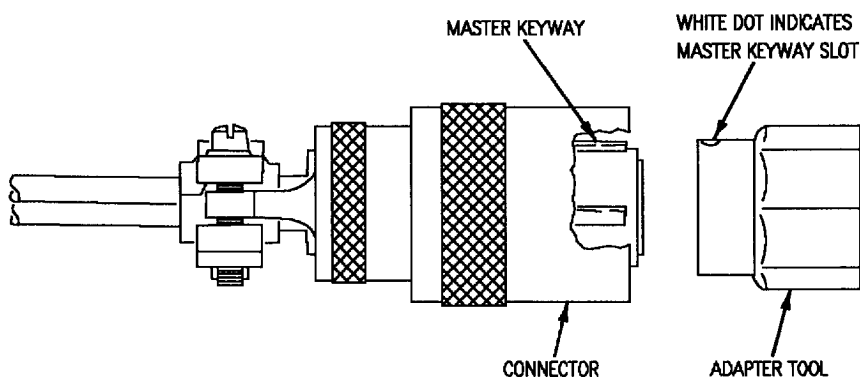
MIL-C-26482 SERIES 1

F/A-18-WRM-(500-20)02-CATI

Figure 2. CM Adapter Tool

White dot on adapter tool must be in line with master key of connector before insertion. Spinning the adapter tool onto connector until it slips into place causes unnecessary wear to tools, keys and keyways.

- b. Mate adapter tool to connector. See figure 3.



F/A-18-WRM-(1040-1)02-CATI

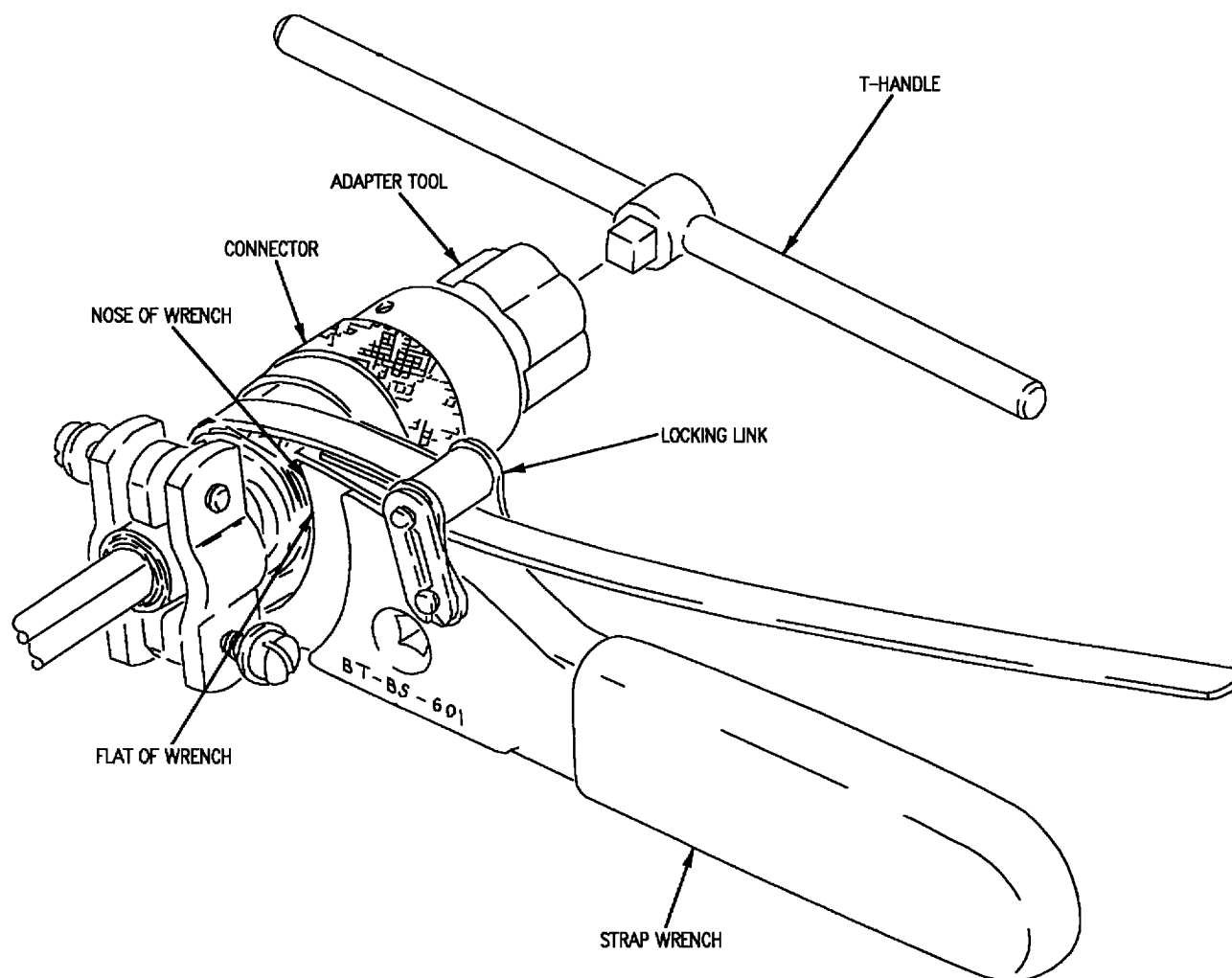
Figure 3. Adapter Tool Mating

7. STRAP WRENCH.

a. Install the strap around part to be tightened or loosened. Draw the strap tight through the locking link so the cable clamp and strap rests on the nose of the wrench. See figure 4.

NOTE

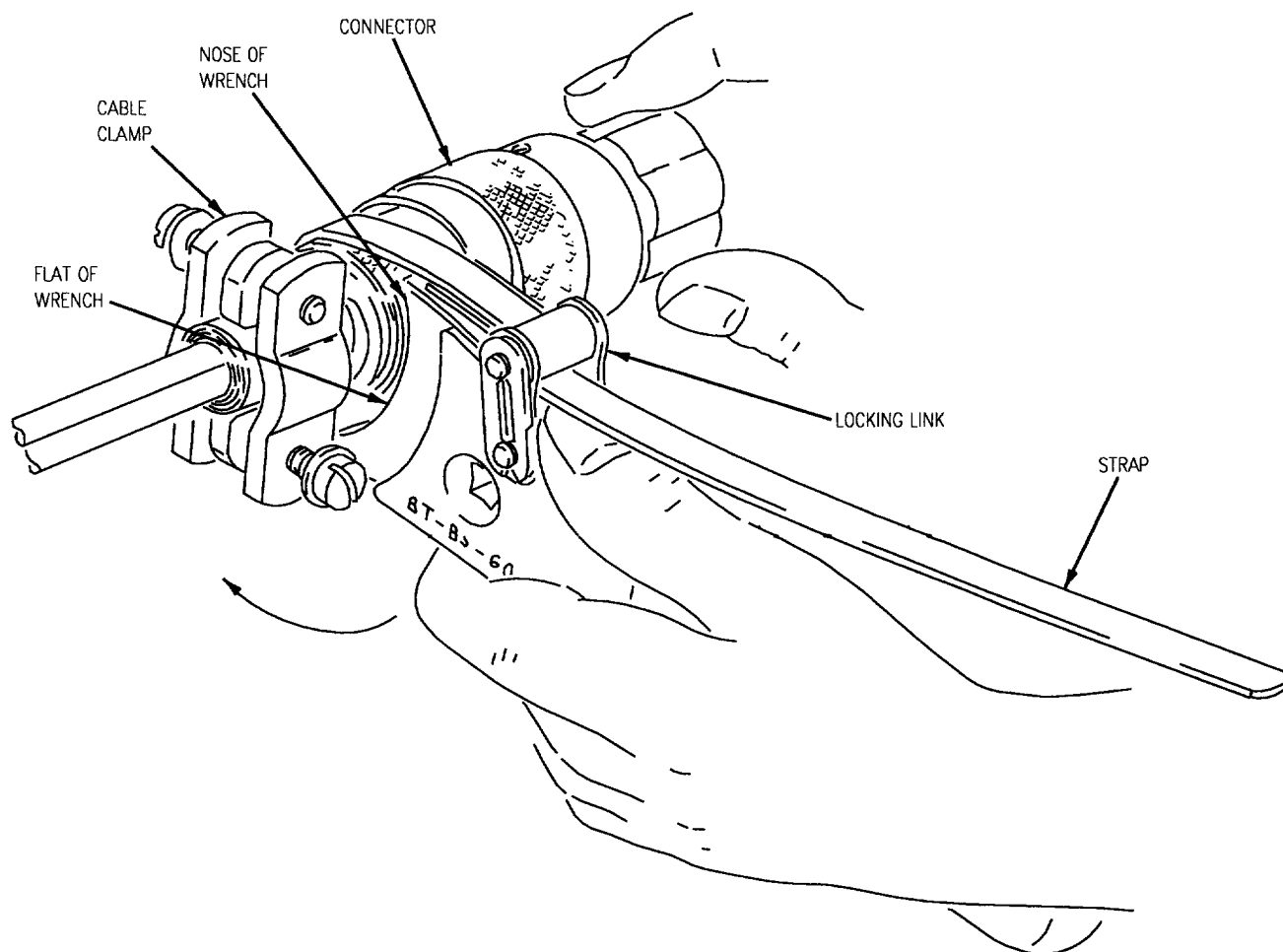
T-Handle can be used for additional gripping force to adapter if required.



F/A-18-WRM-(1040-2)02-CAT1

Figure 4. Strap Wrench Setup and Adjustment

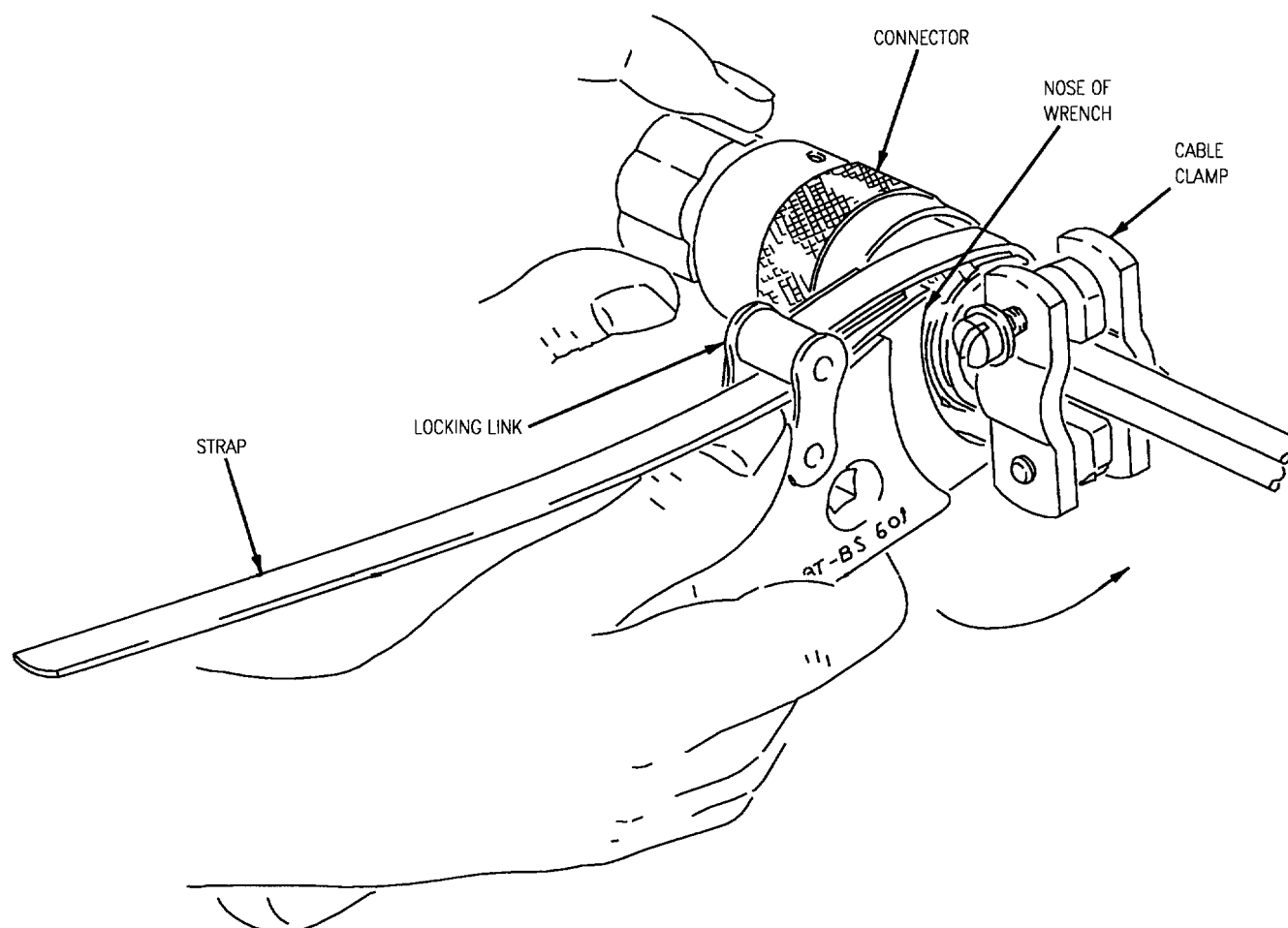
b. To tighten clamp, apply force in a clockwise direction as viewed from the rear connector. The clamp and strap are tucked beneath the nose of the wrench and against the flat of the wrench. See figure 5.



F/A-18-WRM-(1040-3)02-CATI

Figure 5. Tightening Position of Wrench

c. To loosen clamp, turn counterclockwise as viewed from the rear of the connector. See figure 6.



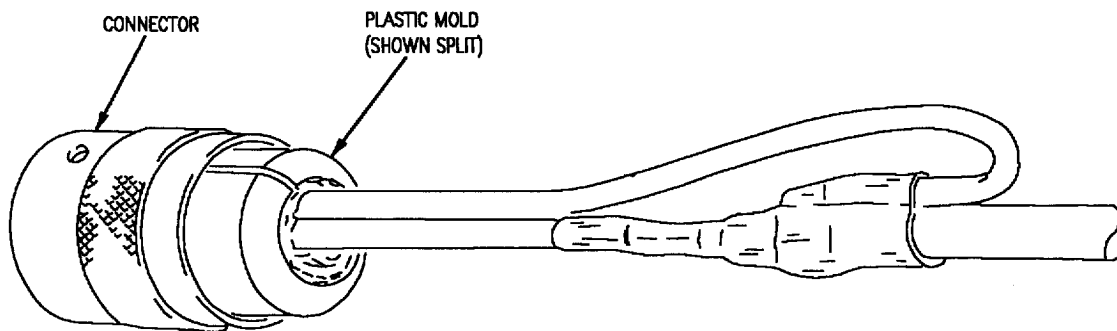
F/A-18-WRM-(1040-4)-02-CAT1

Figure 6. Loosening Position of Wrench

**8. MS3116P8-3P CONNECTOR
DISASSEMBLY PROCEDURE.**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Remove plastic mold using a heated soldering iron. See figure 7.



F/A-18-WRM-(1040-5)02-CAT1

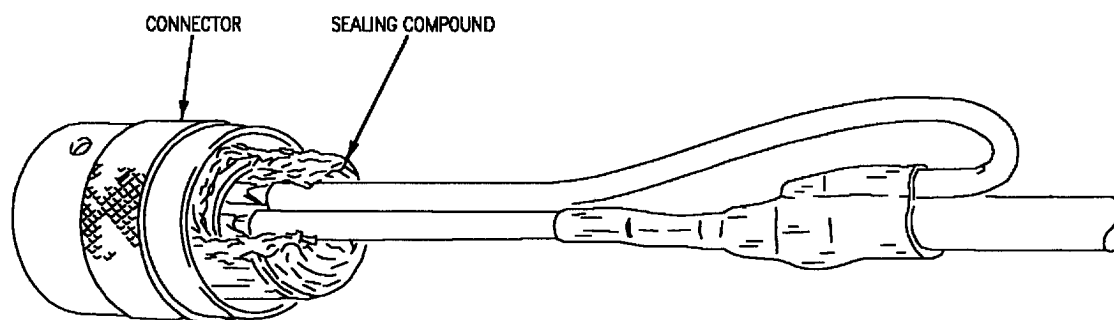
Figure 7. Removing Plastic Mold



c. Unsolder wires using a soldering iron per paragraph 17. ■

When cutting sealing compound with a sharp tool, extreme care must be taken not to nick or scrape the wire insulation beneath the cut.

b. Remove sealing compound using a wooden spatula or pick. See figure 8.



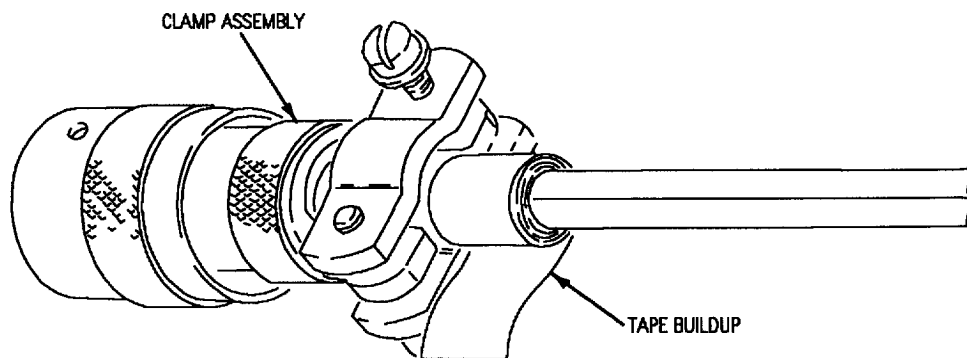
F/A-18-WRM-(1040-6)02-CAT1

Figure 8. Removing Sealing Compound

**9. MS3116F8-3S CONNECTOR
DISASSEMBLY PROCEDURE.**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

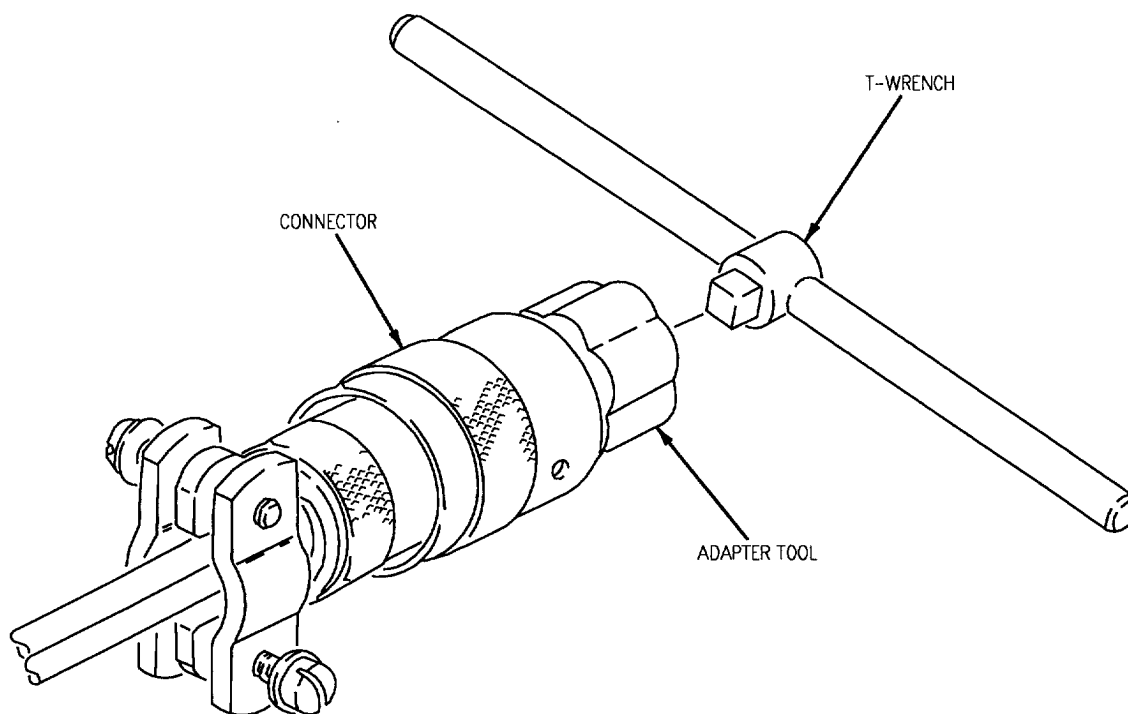
- a. Loosen both screws on clamp. Remove tape buildup on wires. See figure 9.



F/A-18-WRM-(1040-7)02-CATI

Figure 9. Loosen Screws on Clamp Assembly

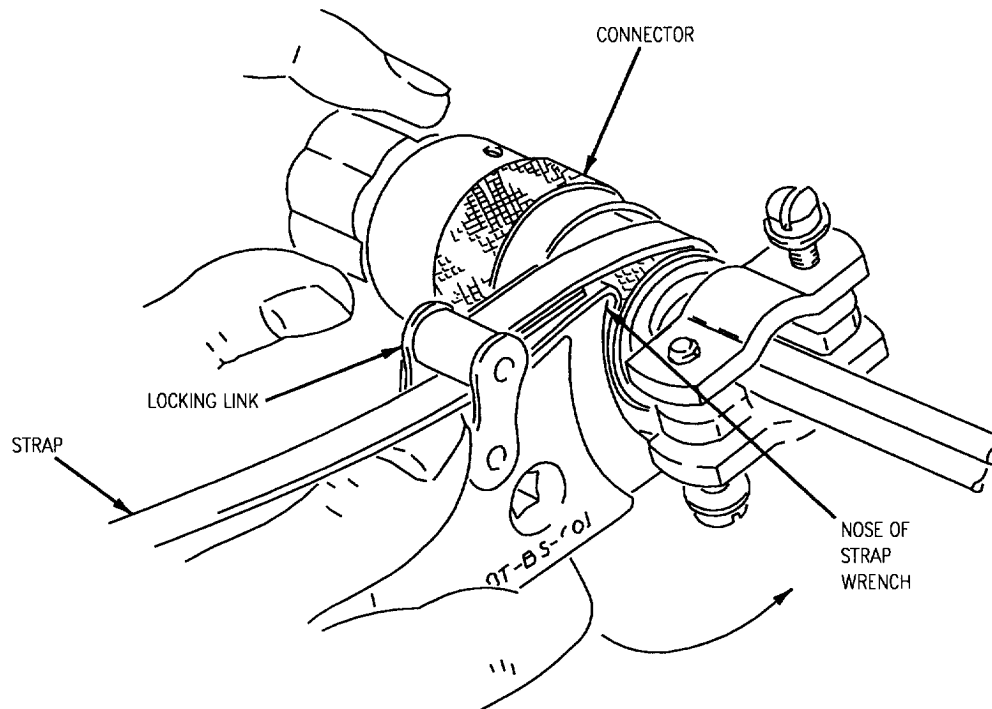
b. If required on face of connector, use T wrench BT-HT-107. See figure 10.



F/A-18-WRM-(1040-8)02-CATI

Figure 10. Installation of T-Handle and Adapter Tool

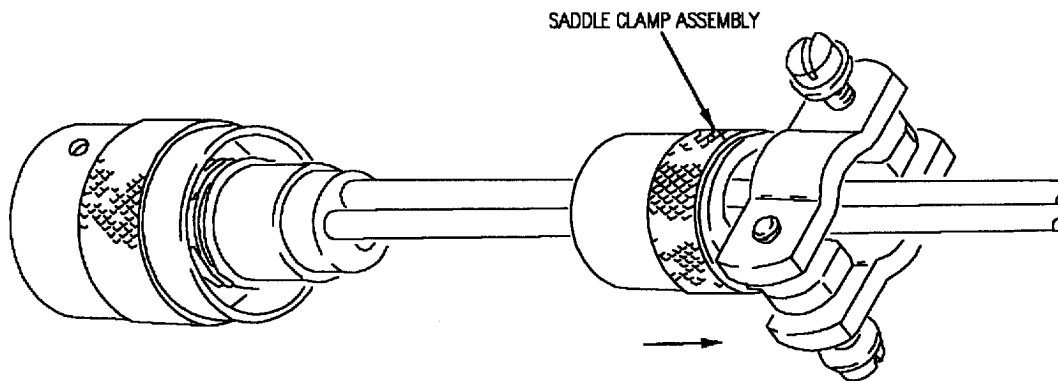
- c. Install strap wrench BT-BS-601 on the saddle clamp assembly. See figure 11.



F/A-18-WRM-(1040-9)02-CAT I

Figure 11. Installation of Strap Wrench to Remove Clamp Assembly

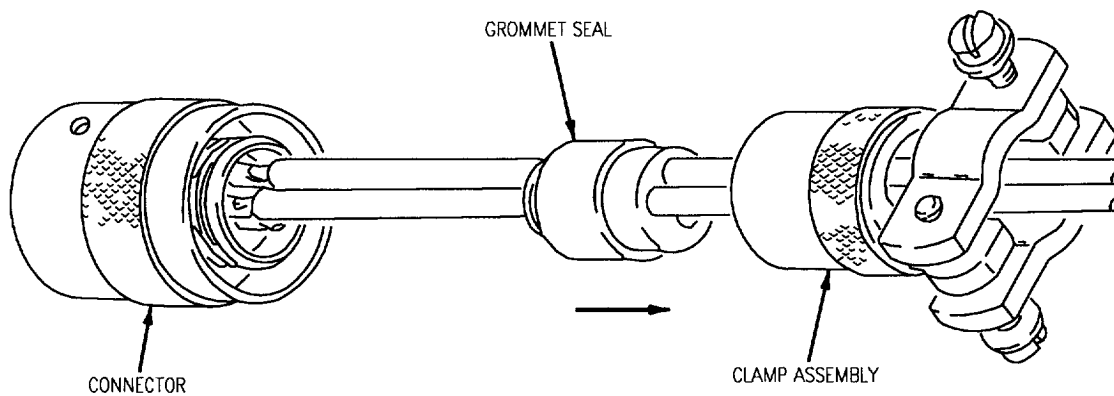
d. Screw saddle clamp assembly counterclockwise until loose. Slip clamp back on wire bundle. See figure 12.



F/A-18-WRM-(1040-10)02-CATI

Figure 12. Remove Saddle Clamp Assembly

e. Pull grommet seal back on wire saddle clamp assembly. See figure 13.



F/A-18-WRM-(1040-11)02-CATI

Figure 13. Slip Grommet Back on Wire Bundle

f. Unsolder wires using a soldering iron per paragraph 17.

10. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

11. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

12. WIRE PREPARATION.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

NOTE

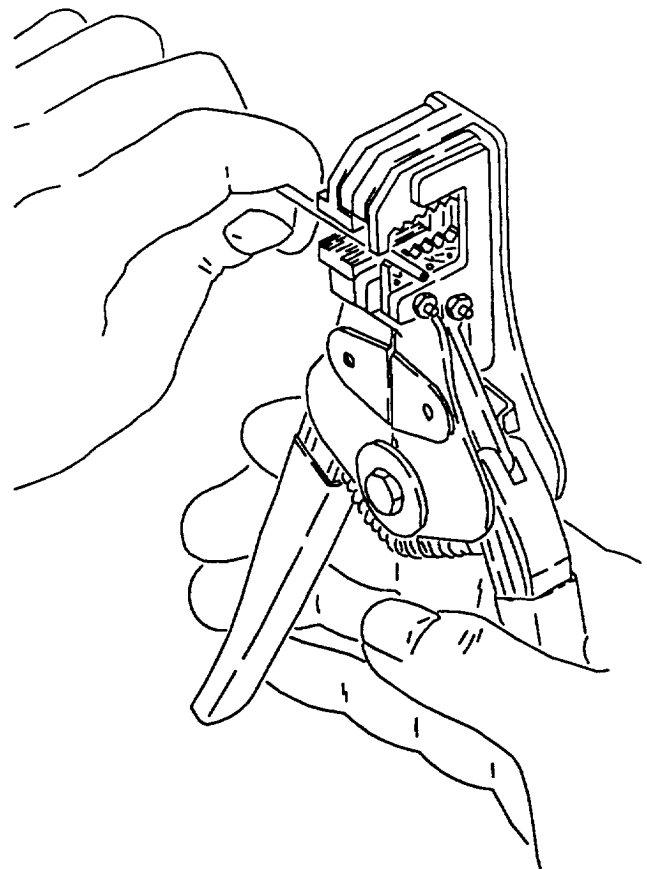
Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

NOTE

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

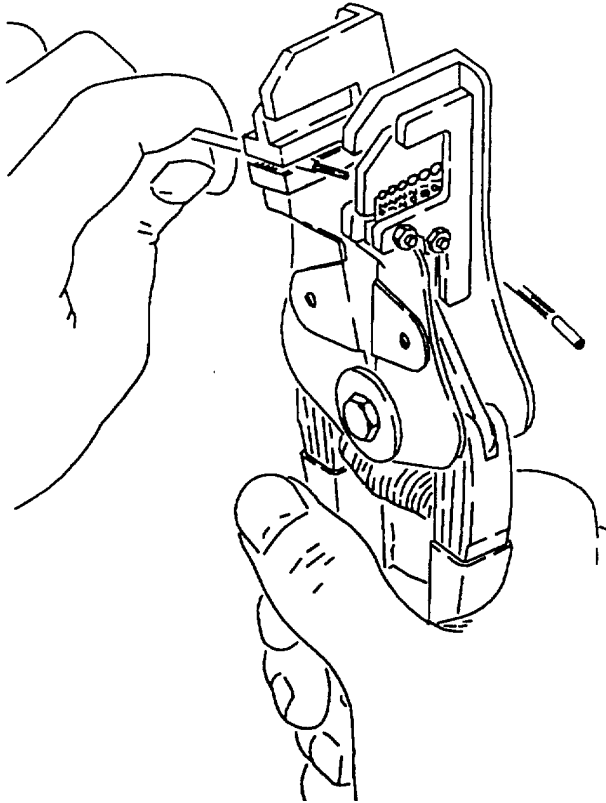
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 14.



F/A-18-WRM-(401-1)01-SCAN

Figure 14. Placing Wire in Slot of Stripping Tool

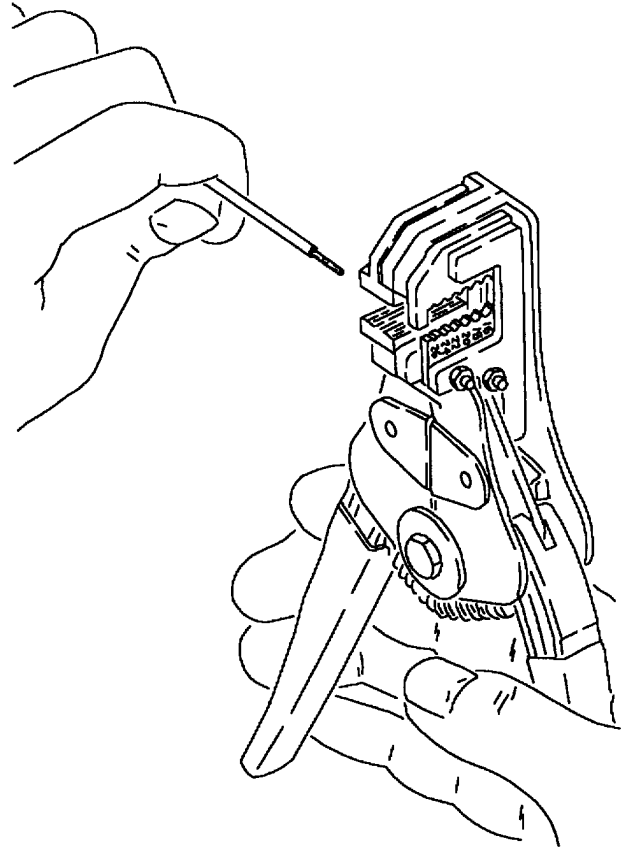
e. Close handles together as far as they will go. See figure 15.



F/A-18-WRM-(402-1)01-SCAN

Figure 15. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 16.



F/A-18-WRM-(403-1)01-SCAN

Figure 16. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 17 are unacceptable.

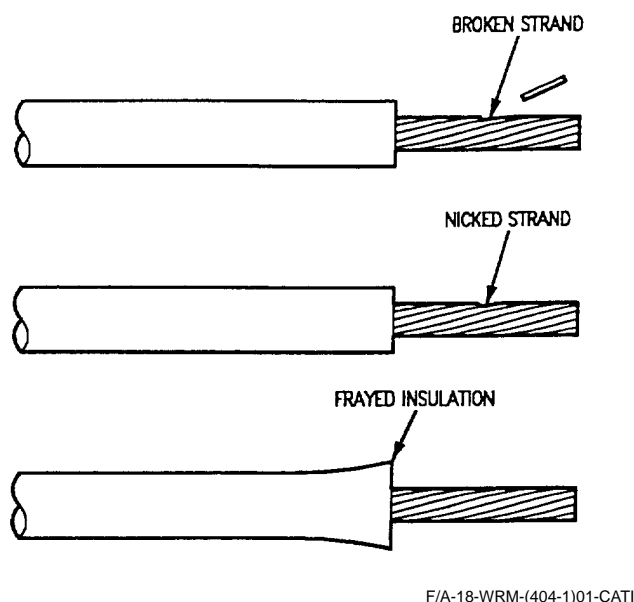


Figure 17. Unacceptable Conditions

13. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

14. DISTANCE ADJUSTMENT.

a. Measure distance between blades. See figure 18.

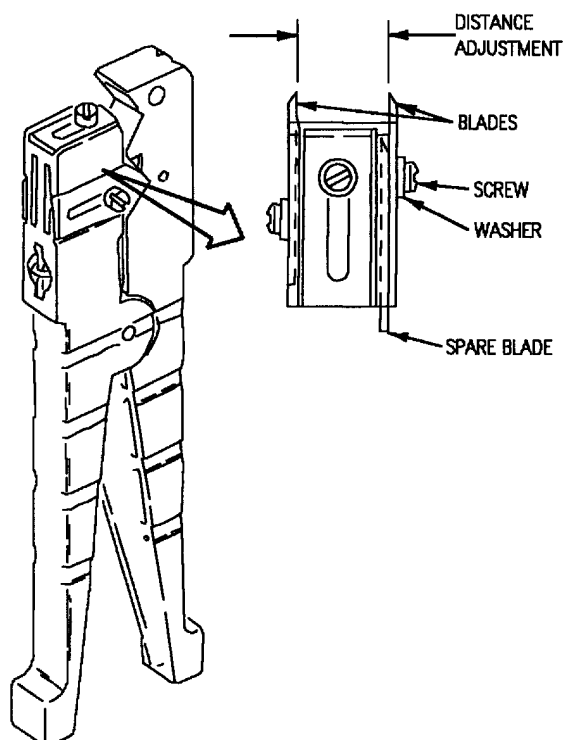
b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades 3/64-inch.

c. Install screws and tighten handtight.

d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

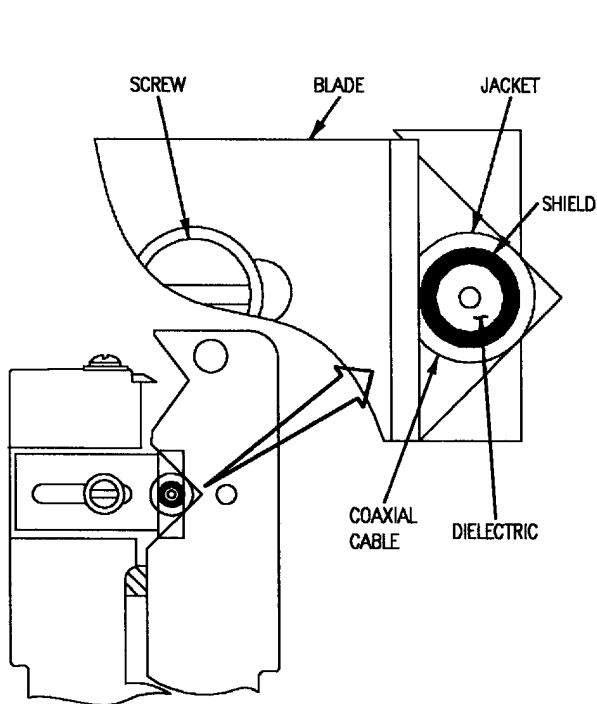
Figure 18. Distance Adjustment

15. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare coax before stripping coax to be used.

- a. Position coaxial cable in stripper until the end butts against the blade. See figure 19.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



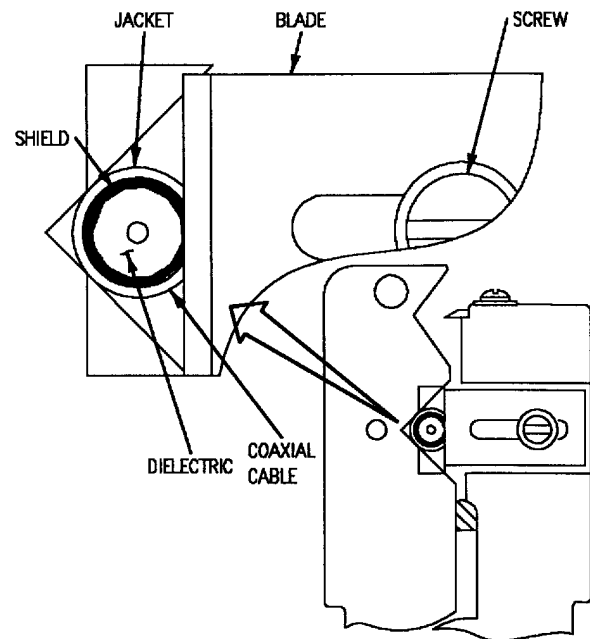
F/A-18-WRM-(409-3)01-CATI

Figure 19. Jacket Cut Adjustment

- c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 20.

- d. Adjust blade so it cuts through shield without damaging dielectric.

- e. If required, repeat steps 15a through 15d until blades cut through jacket and shield without damaging shield and dielectric.



F/A-18-WRM-(409-4)01-CATI

Figure 20. Shield Cut Adjustment

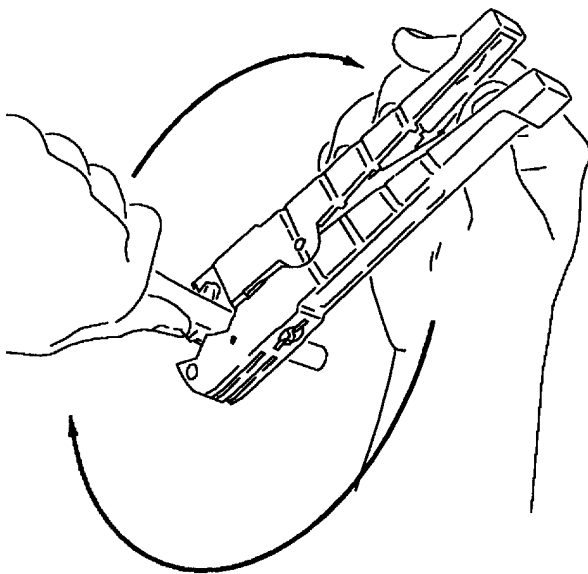
16. **USE.**

- a. Position stripper on cable so that blades face down. See figure 21.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

- b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.
- c. Remove stripper from cable.
- d. Remove stripped jacket and shield.



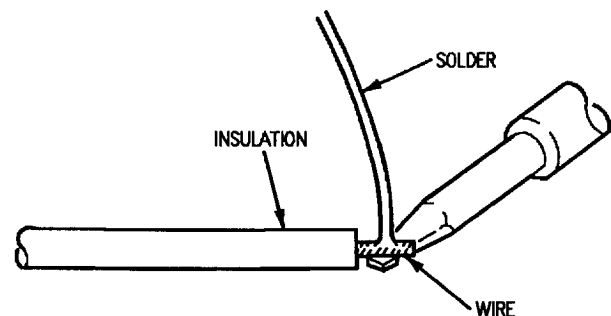
F/A-18-WRM-(409-1)01-SCAN

Figure 21. Operation17. **SOLDERING.**

18. Soldering provides a mechanical and electrical bond between metallic components. To get a good solder joint, all surfaces must be clean. The soldering iron must be clean and tinned with a thin layer of solder to conduct heat. Excessive solder on the soldering iron tip may cause solder to splash on nearby components. A damp cloth can be used to wipe excess solder and residue from soldering iron tip.

19. **TINNING WIRES.**

- a. Clean and tin soldering iron.
- b. Make sure wire strands are twisted together in the same direction as the lay of wire.
- c. Apply heat and solder to wires. Remove heat when solder flows into wire strands. Apply only enough solder to join strands together. Make sure individual strands of wire are coated with solder and normal lay of strands is still visible. See figure 22.

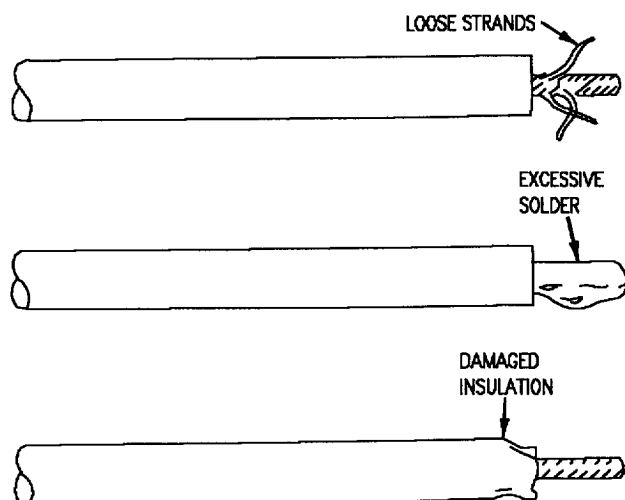


F/A-18-WRM-(413-1)01-SCAN

Figure 22. Tinning Wire

d. Conditions shown in figure 23 are unacceptable.

- (1) Individual strands not joined.
- (2) Excessive solder.
- (3) Damaged insulation.



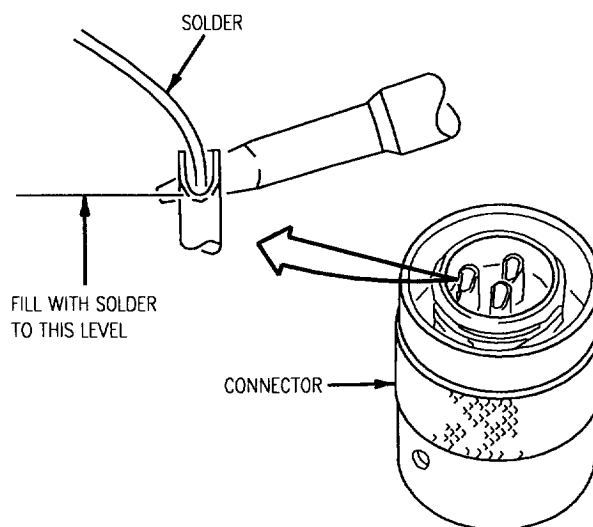
F/A-18-WRM-(412-2)02-CATI

Figure 23. Unacceptable Conditions After Tinning

20. SOLDERING WIRES INTO CONNECTOR.

a. Clean and tin soldering iron tip.

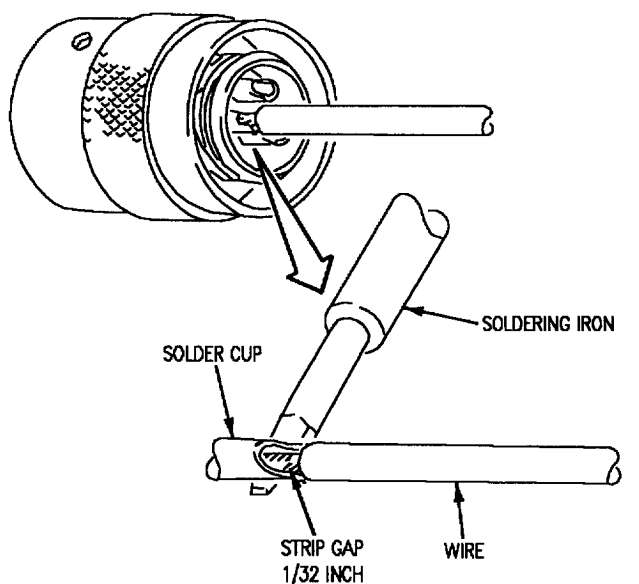
b. Apply heat to connector solder cup and fill cup with solder. Avoid getting solder on outside of contact. See figure 24.



F/A-18-WRM-(1040-12)02-CATI

Figure 24. Filling Solder Cup

c. Position wire in connector solder cup, apply heat to solder cup. When solder melts, slide wire into solder cup. Remove heat as soon as solder flows between wire and solder cup. Hold wire steady until solder hardens. See figure 25.

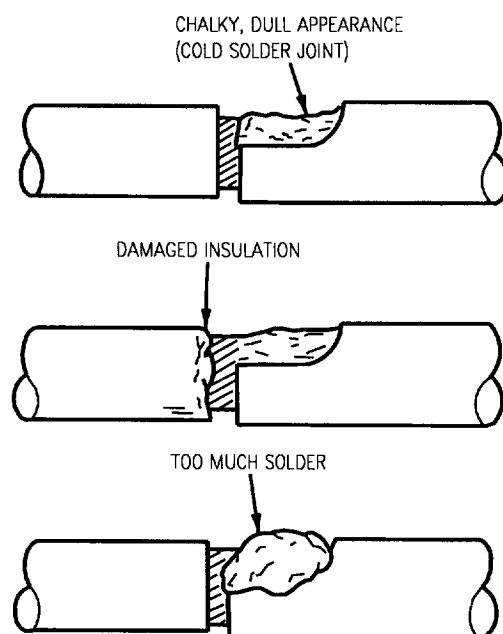


F/A-18-WRM-(1040-13)02-CAT1

Figure 25. Soldering Wire into Solder Cup

d. Inspect solder joint. Solder should be shiny and flow smoothly from center conductor to contact. Conditions shown in figure 26 are unacceptable.

- (1) Chalky, dull appearance (cold solder joint).
- (2) Damaged insulation.
- (3) Too much solder.



F/A-18-WRM-(412-1)01-CAT1

Figure 26. Unacceptable Conditions After Soldering

21. MS3116P8-3P CONNECTOR REASSEMBLY PROCEDURE.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If dirty, clean wires using isopropyl alcohol. Clean all areas to be etched. Dry with shop air or a clean cloth.

WARNING

Etching solution is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

NOTE

Apply etching solution for a minimum of five to ten seconds.

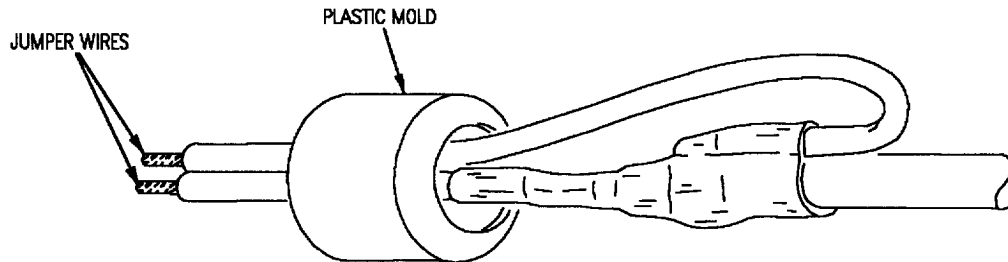
b. Using etching solution etch wires a minimum of 1/10 inch above location of potting mold when assembled. Establish measurement by slipping plastic mold over wires. Remove plastic mold before etching wires.

c. Neutralize etching solution on wires by holding under water for five to ten seconds. Preferably running water. Dry with shop air or a clean cloth.

d. Rinse a second time with isopropyl alcohol for five to ten seconds. Dry with shop air or a clean cloth.

e. Inspect etched wires for light beige to dark brown color. Color should be uniform, not broken or spotted after rinsing.

f. Slip plastic mold over wires. Push plastic mold back to allow room to solder wires in connector. See figure 27.



F/A-18-WRM-(1040-14)02-CATI

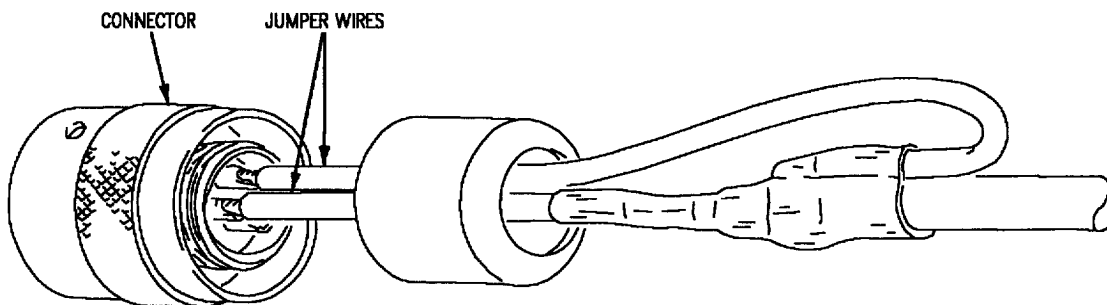
Figure 27. Slip Plastic Mold onto Wire Bundle

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

g. Brush solder pots with isopropyl alcohol until clean. Dry with shop air or air dry.

h. Tin and solder wires using soldering iron. Refer to paragraph 19. See figure 28. ■



F/A-18-WRM-(1040-15)02-CATI

Figure 28. Solder Wires in MS3116P8-3P Connector

CAUTION

Adhesive primer is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

- i. Brush coat a thin layer of adhesive primer to wires, contacts and plastic mold.
- j. Prime wires an additional 1/2-inch beyond area that is etched.
- k. Air dry adhesive primer for five minutes. Apply 180° to 225°F heat for thirty minutes in electric curing oven.
- l. Slide plastic mold over wires to back of connector.

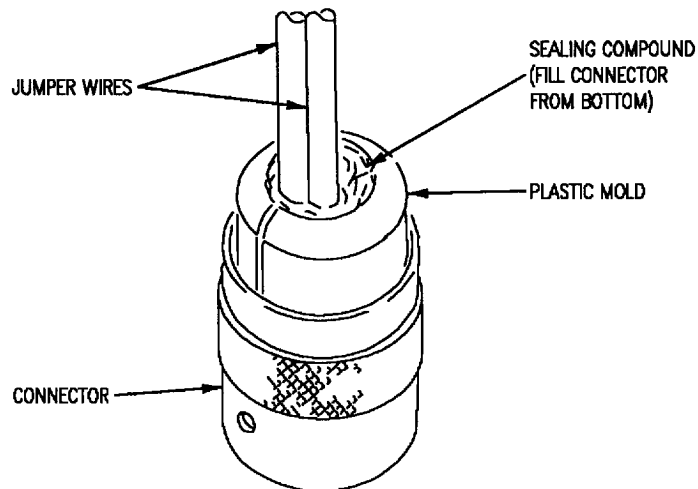
CAUTION

Sealing compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Good general ventilation is normally adequate. Keep away from open flames or other sources of ignition.

NOTE

Avoid air pockets by filling sealing compound slowly. Fill plastic mold from bottom.

- m. Fill plastic mold with MIL-S-8516 type 1 class 3 sealing compound. See figure 29.



F/A-18-WRM-(1040-16)02-CATI

Figure 29. Filling Plastic Mold with MIL-S-8516 Type 1 Class 3 Sealing Compound

Table 1. Sealing Compound Cure Time

TEMPERATURE (° F)	CURING TIME (HOURS)
60	50
70	40
80	30
90	20
100	10
110	8
120 Max.	6

**22. MS3116F8-3S CONNECTOR
REASSEMBLY PROCEDURE.****WARNING**

Isopropyl alcohol is highly flammable. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

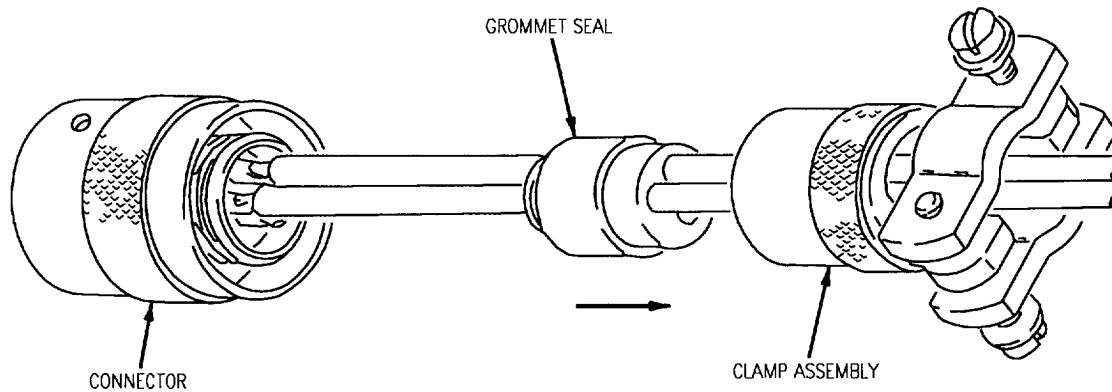
a. Isopropyl alcohol may be used as a lubricant. Apply by brushing on grommet seal.

NOTE

Make sure wires are inserted through correct holes within grommet seal.

b. Slide cable clamp and grommet seal onto bundle.

c. Tin and solder wires using soldering iron. Refer to paragraph 17. See figure 30.

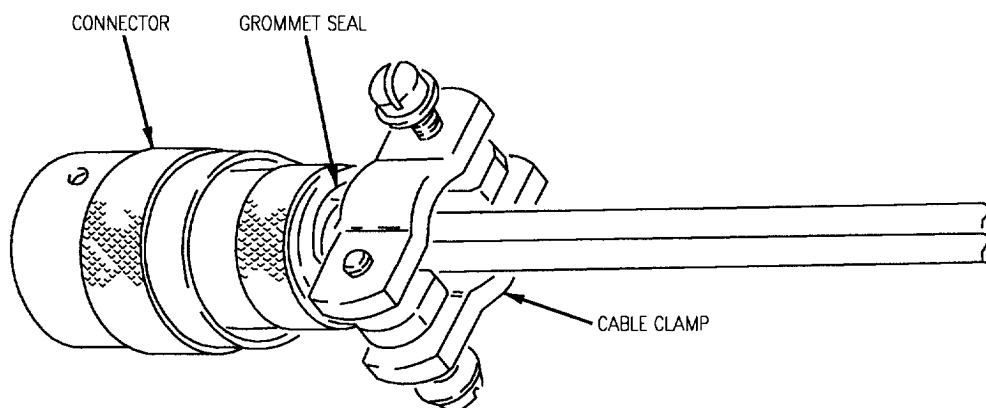


F/A-18-WRM-(1040-11)02-CAT1

Figure 30. Cable Clamp Assembly

d. Slide grommet seal into connector.

e. Slide cable clamp onto connector and screw into place (hand tighten). See figure 31.

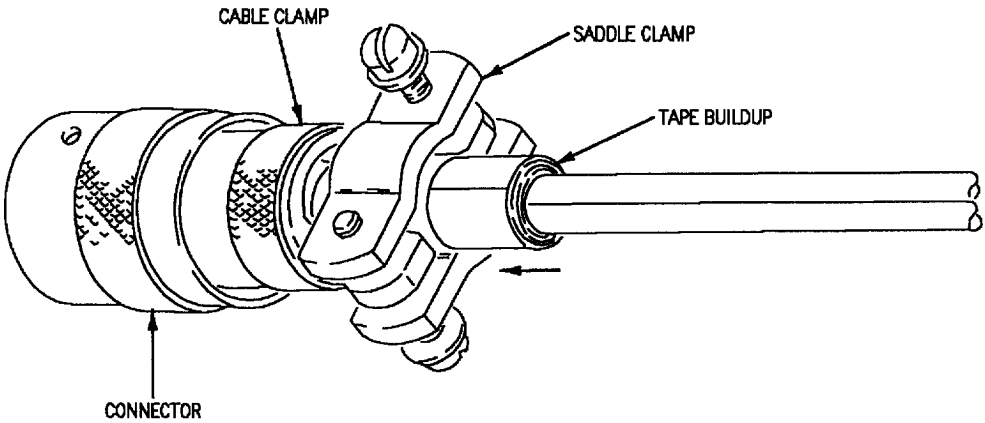


F/A-18-WRM-(1040-17)02-CAT1

Figure 31. Installation of Grommet Seal and Cable Clamp

f. Build up cable assembly diameter under saddle clamp with reinforced silicone rubber tape (table 2) to

provide good clamping between saddle clamp and cable assembly. See figure 32.



F/A-18-WRM-(1040-18)02-CATI

Figure 32. Reinforced Silicone Rubber Tape Buildup

Table 2. Reinforced Silicone Rubber Tape

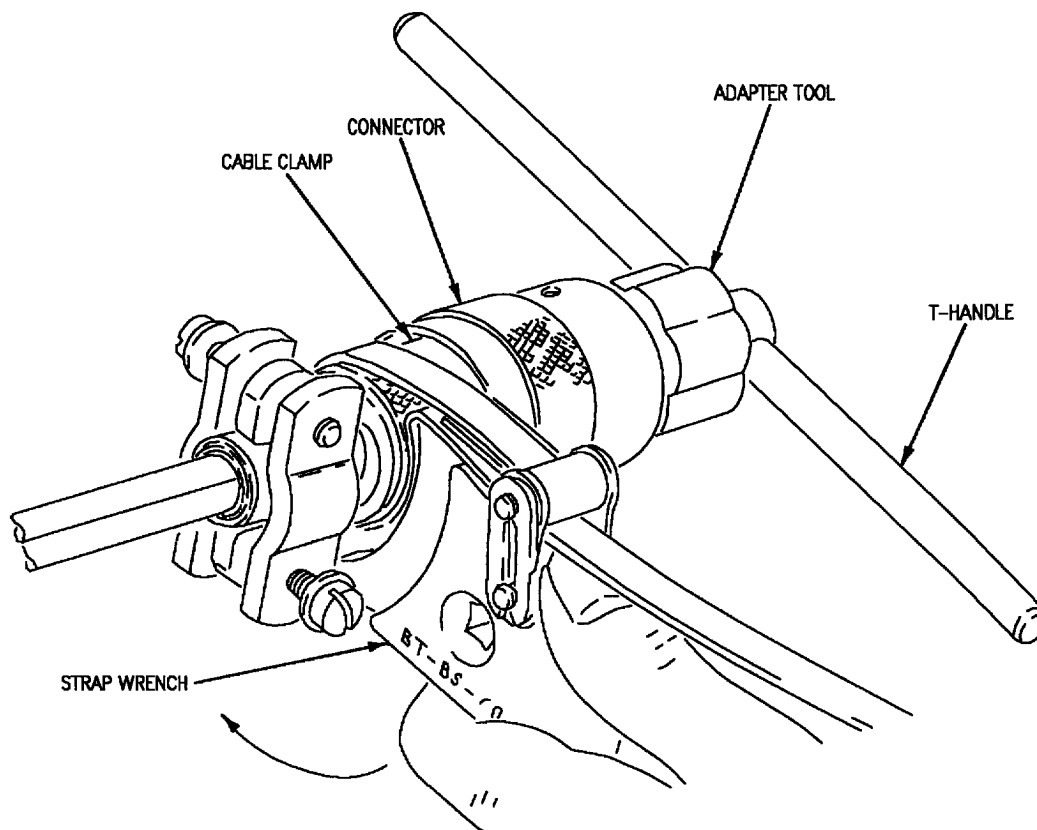
PART NUMBER	CAGE	WIDTH (INCH)
S-25	07099	1/2
S-80	07099	1/2
REINFORCED WITH FIBERGLASS SELF-BONDING TAPE COMES IN ROLLS COLOR - BLACK TEMPERATURE RANGE - -178° to +500°F		



h. If required, use T wrench BT-HT-107 connected to CM 264-8 adapter tool. See figure 33.

Make sure cable clamp does not touch wires.

g. Position strap wrench and CM adapter tool on connector.



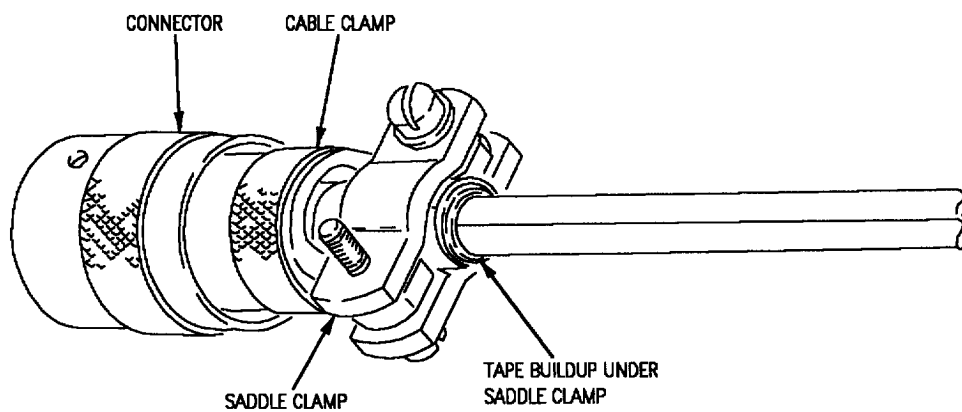
F/A-18-WRM-(1040-19)02-CAT1

Figure 33. Tightening Cable Clamp

NOTE

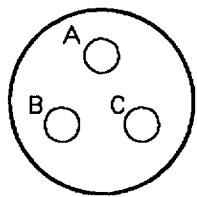
Leave 2 threads exposed, allowing 1/16-inch gap between saddle clamp when fully tightened.

- i. Tighten saddle clamp. See figure 34.



F/A-18-WRM-(1040-20)02-CAT1

Figure 34. Installing Saddle Clamp



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(809-3)01-CATI

Reference Designation to Backshell Data Index for MS3116P8-3P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
61P-E009B	None	This WP

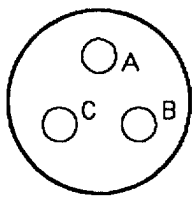
Table 1. Tool Data For MS3116P8-3P Connector

ITEM	TOOL NUMBER
Soldering Iron	W60-3

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A and B C	See Figure 37	Solder Contacts Solder Contacts	N/A N/A

Figure 35. MS3116P8-3P Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(909-3)01-CATI

Reference Designation to Backshell Data Index for 3116F8-3S Connector



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
33P-J008	None	This WP
 33P-L018	None	This WP
 F/A-18B		

Table 1. Tool Data

ITEM	TOOL NUMBER
Solder Iron	W60-3
CM Adapter Tool	CM 264-8

Table 2. Contact Data For MS3116F8-3S Connector

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU C	3/16	Solder Contacts	N/A

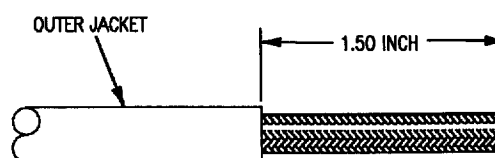
Figure 36. MS3116F8-3S Connector



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

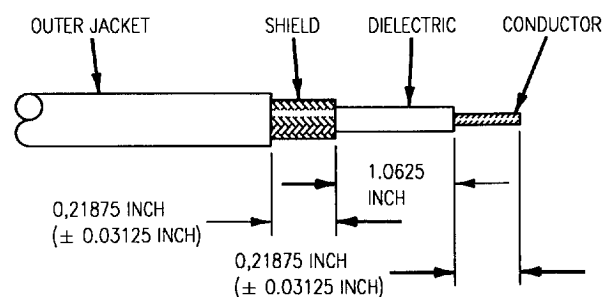
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

- a. Remove 1-1/2-inch of outer jacket from coaxial cable using stripper 45-163.



F/A-18-WRM-(1073-1)02-SCAN

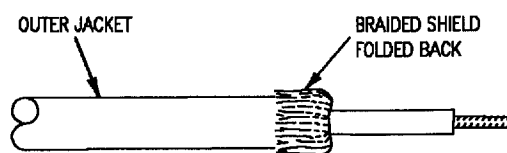
- b. Strip shield and dielectric using cable stripper 45-163.



F/A-18-WRM-(1073-2)02-SCAN

Figure 37. M17/175-00001 Coaxial Assembly Procedure (Sheet 1)

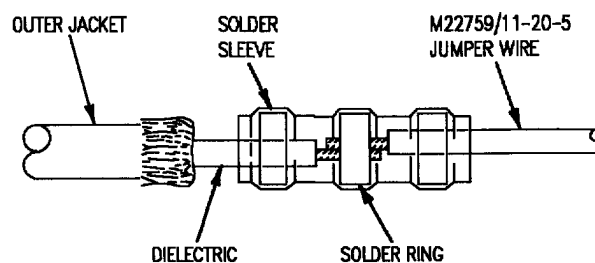
c. Comb out braided shield and fold back over outer jacket.



F/A-18-WRM-(1073-3)02-SCAN

d. Cut M22759/11-20-5 jumper wire 3 inches and strip one end 7/32-inch.

e. Insert jumper wire (M22759/11-20-5) solder sleeve so that conductors overlap but do not touch coaxial dielectric.



F/A-18-WRM-(1073-4)02-SCAN

Figure 37. M17/175-00001 Coaxial Assembly Procedure (Sheet 2)

WARNING

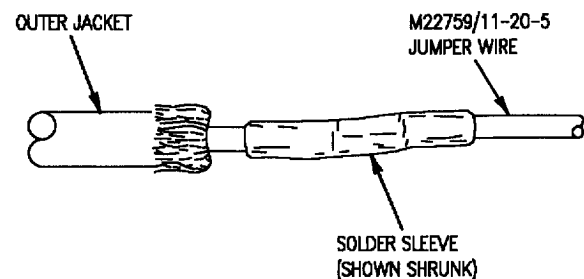
To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

NOTE

Complete melting of solder ring is accomplished when solder ring color changes from dull gray to bright silver, 10 to 30 seconds after initial heat application.

f. Using Heat Tool, melt solder ring and shrink solder sleeve so that completed splice appears as shown.



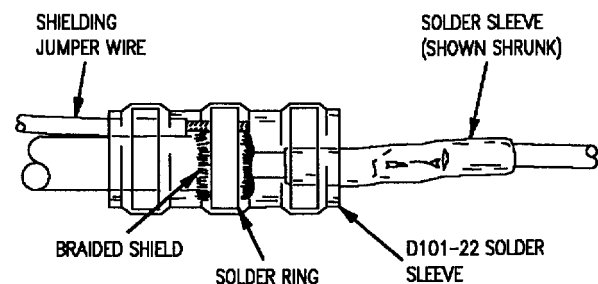
F/A-18-WRM-(1073-5)02-SCAN

g. Position shielding jumper wire (M22759-11-22-5) parallel to and in contact with coaxial shielding.

NOTE

Make sure that coaxial shield strands and shielding jumper wire conductors are smooth and flat.

h. With wide end of solder sleeve (D101-22) towards cable connector, install solder sleeve over shielding jumper wire and coaxial shielding so that solder ring is centered over exposed shielding.



F/A-18-WRM-(1073-6)02-SCAN

Figure 37. M17/175-00001 Coaxial Assembly Procedure (Sheet 3)

WARNING

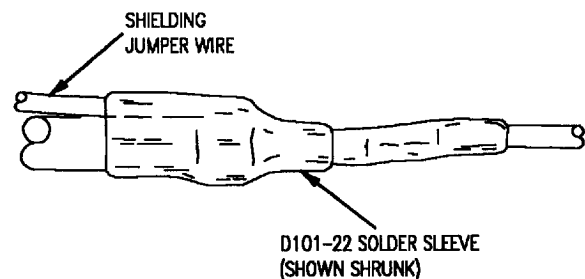
To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

NOTE

Complete melting of solder ring is accomplished when solder ring color changes from dull gray to bright silver, 20 to 30 seconds after initial heat application.

- i. Using Heat Tool, melt solder ring and shrink solder sleeve so that completed splice appears as shown.



F/A-18-WRM-(1073-7)02-SCAN

Figure 37. M17/175-00001 Coaxial Assembly Procedure (Sheet 4)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****10-550598-35P (MIL-C-38999 SERIES 1)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 39	30 Jun 93	Addition of a Second Shoot Light Power Supply Connector (WUC 44314)	1 Oct 93	-

Reference Designation to
Figure Number IndexReference
Designation

Figure No.

☐ 1 5J-E035
☐ 2 5J-F035
 5J-U036
 5J-V040

19
 19
 19
 19

1. DESCRIPTION.

2. The MIL-C-38999 soldered connector is a hermetically sealed, bayonet coupling, jam nut mounting, with non-removable contacts.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

LEGEND

☐ 1 F/A-18A 161520 THRU 161761
 F/A-18B 161704 THRU 161746; ALSO
 F/A-18B 161354 THRU 161360
 BEFORE F-18 AFC 39
☐ 2 F/A-18A 161353 THRU 161519
 BEFORE F-18 AFC 39

Support Equipment Required

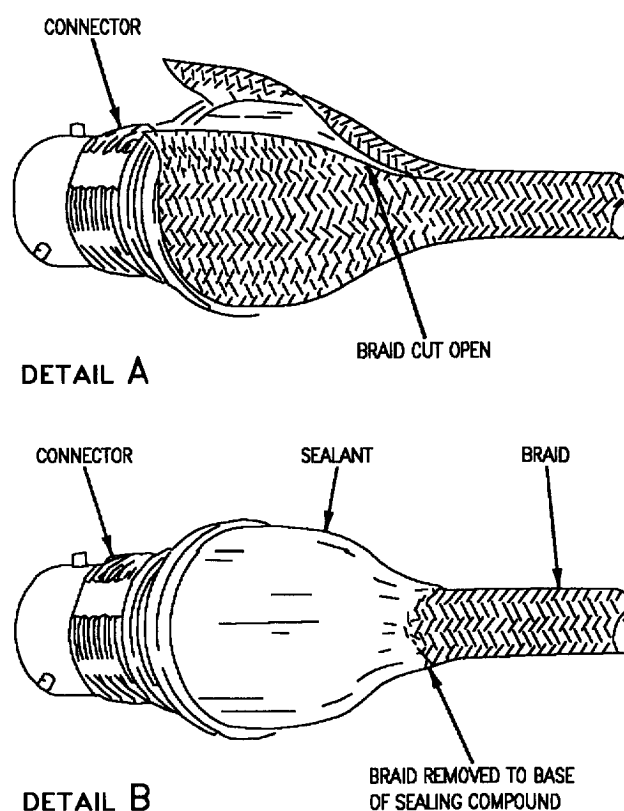
Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector
POM-106A-G	Oven-Curing, Electric, Class A (Shipboard)
POM-106A-F	Oven-Curing Electric, CL Class A (Shore based)
HT-900	Heat Tool
1317AS100-1	Nitrogen Servicing Unit-NAN-3

Materials Required

Specification or Part Number	Nomenclature
MIL-S-8516 TYPE 1 CLASS 3	Sealing Compound
EC 1945 BA	Primer Adhesive
MIL-S-83430 CLASS A-4	Sealing Compound
MIL-S-83430 CLASS B-1/2	Sealing Compound
TT-I-735 GRADE B	Isopropyl, Alcohol
MIL-I-23594, TYPE 2, 1/2IN.WIDE	Insulation Tape
SN60WRMAP2-0-040	Solder
TETRAETCH20ZBT	Etching Solution
MS27486-12-1	Mold, Plastic
O-T-620	1.11-Trichloroethane Solvent
CCC-C-440 TYPE 1 CLASS 1	Cloth, Cheesecloth
H-B-695 TYPE 1 GRADEA	Brush, Varnish
SIZE 1 1/2	
M23053/5-109-0	Sleeving

4. CONNECTOR DISASSEMBLY PROCEDURE.

a. Remove braid using a heated soldering iron from entire area covered with sealing compound. See figure 1.



F/A-18-WRM-(786-1)02-SCAN

Figure 1. Wire Bundle Braid Removal

b. Remove sealing compound using a wooden spatula. See figure 2.

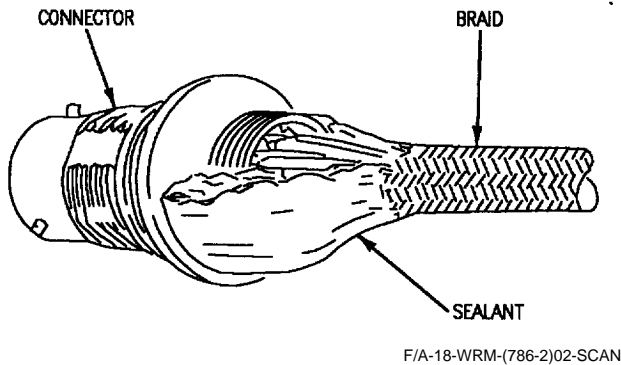


Figure 2. Removing Sealing Compound

c. Remove wires from soldered connector using soldering iron (Tool Location 805), per paragraph 7. See figure 3.

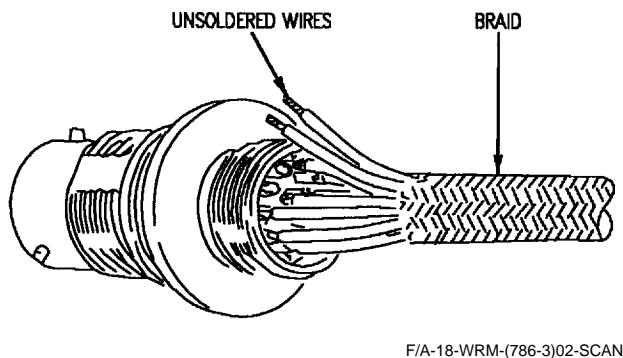


Figure 3. Removing Wires from Connector

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

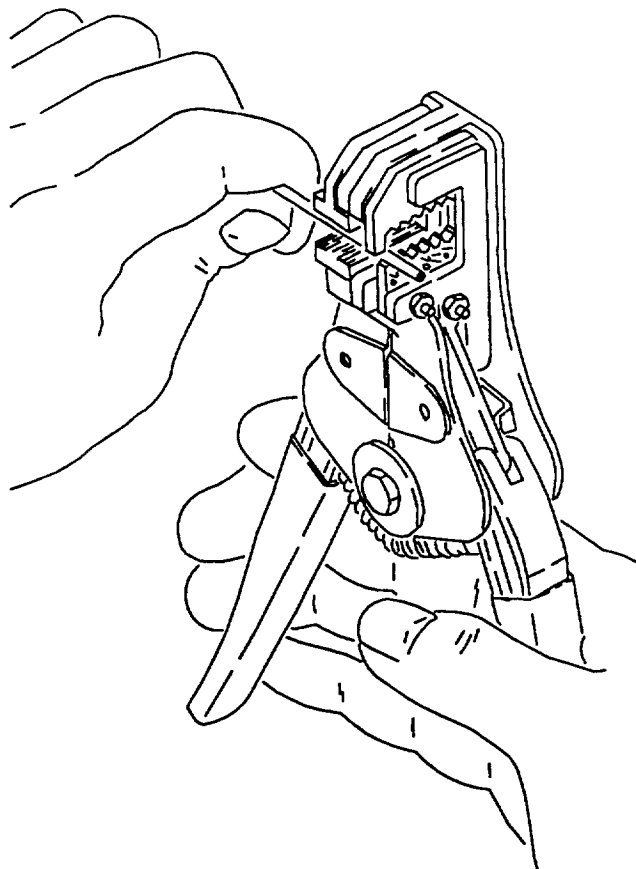
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

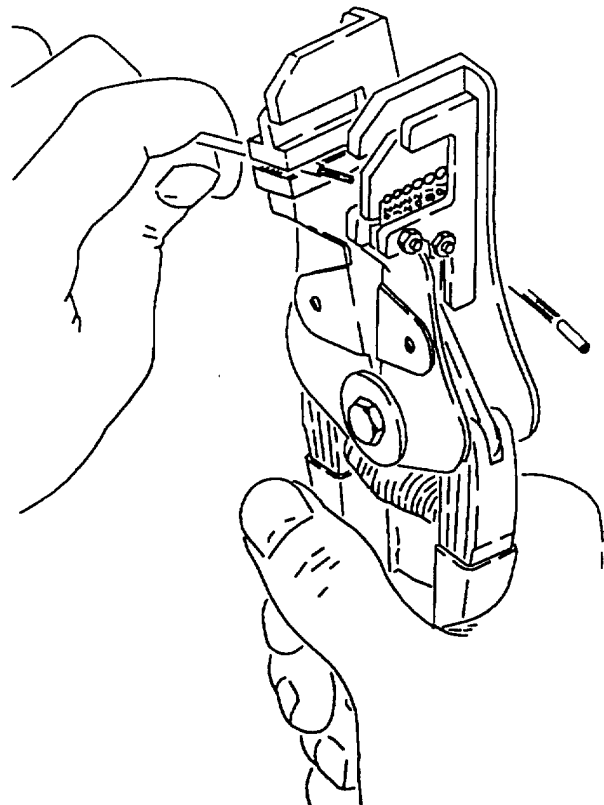
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 4.



F/A-18-WRM-(401-1)01-SCAN

Figure 4. Placing Wire in Slot of Stripping Tool

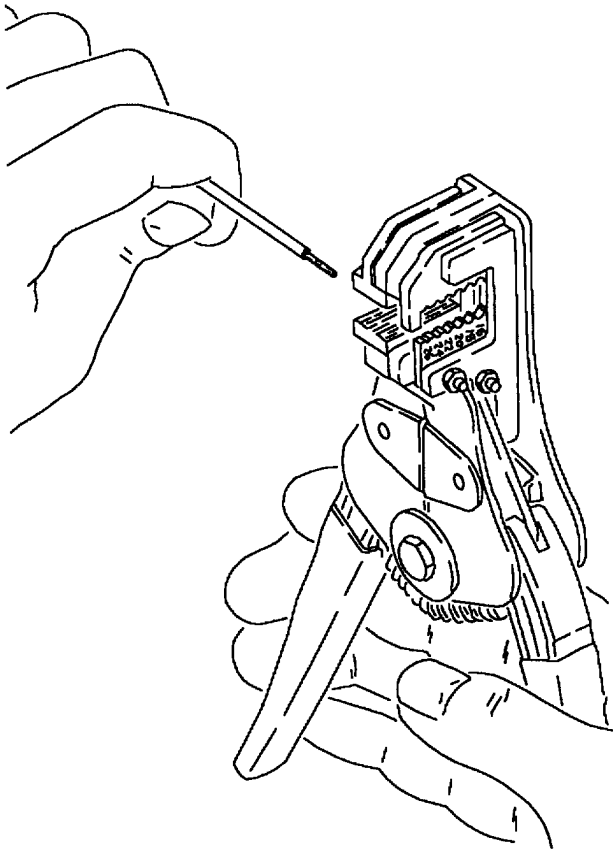
e. Close handles together as far as they will go. See figure 5.



F/A-18-WRM-(402-1)01-SCAN

Figure 5. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 6.

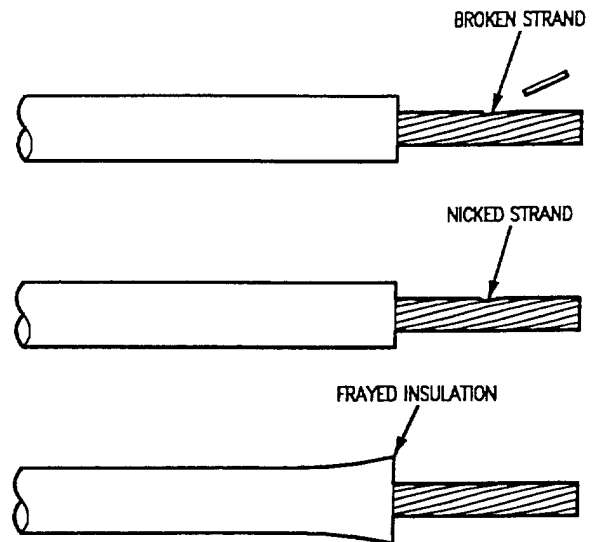


F/A-18-WRM-(403-1)01-SCAN

Figure 6. Stripping Compound

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 7 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 7. Unacceptable Conditions

7. SOLDERING.

8. Soldering provides a mechanical and electrical bond between metallic components. To get a good solder joint, all surfaces must be clean. The soldering iron must be clean and tinned with a thin layer of solder to conduct heat. Excessive solder on the soldering iron tip may cause solder to splash on nearby components. A damp cloth can be used to wipe excess solder and residue from soldering iron tip.

9. TINNING WIRES.

a. Clean and tin soldering iron.

b. Make sure wires are twisted together in the same direction as the lay of wire.

c. Apply heat and solder to wire. Remove heat when solder flows into wire. Apply only enough solder to join wires together. Individual wires should be coated with solder yet their shape visible. See figure 8.

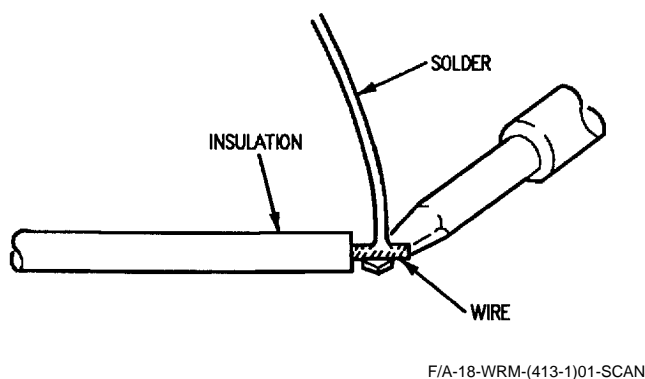


Figure 8. Tinning Wire

d. Conditions shown in figure 9 are unacceptable.

- (1) Individual wires not joined.
- (2) Excessive solder.
- (3) Damaged insulation.

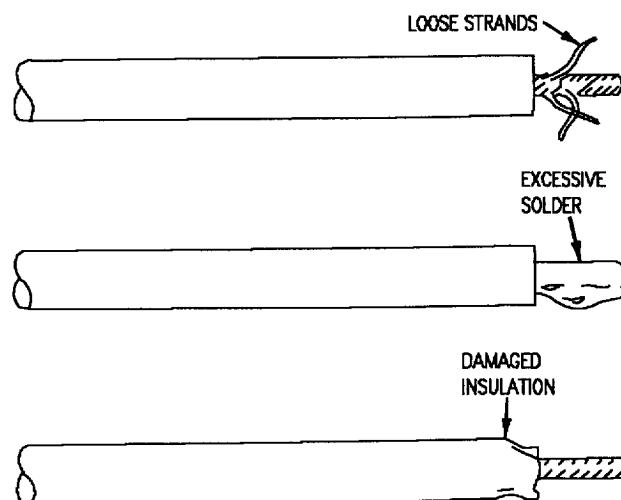


Figure 9. Unacceptable Conditions After Tinning

10. SOLDERING WIRES IN CONNECTOR.

- a. Clean and tin soldering iron.

b. Apply heat to solder cup and fill cup with solder. Avoid getting solder on outside of solder cup. See figure 10.

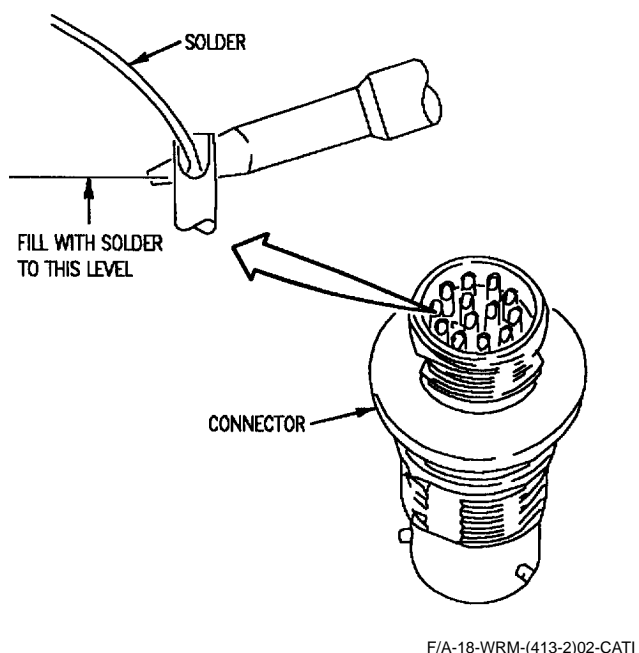


Figure 10. Filling Solder Cup

c. Position wire in solder cup and apply heat to solder cup. When solder melts, slide wire into solder cup. Remove heat as soon as solder flows between wire and solder cup. Hold wire steady until solder hardens. See figure 11.

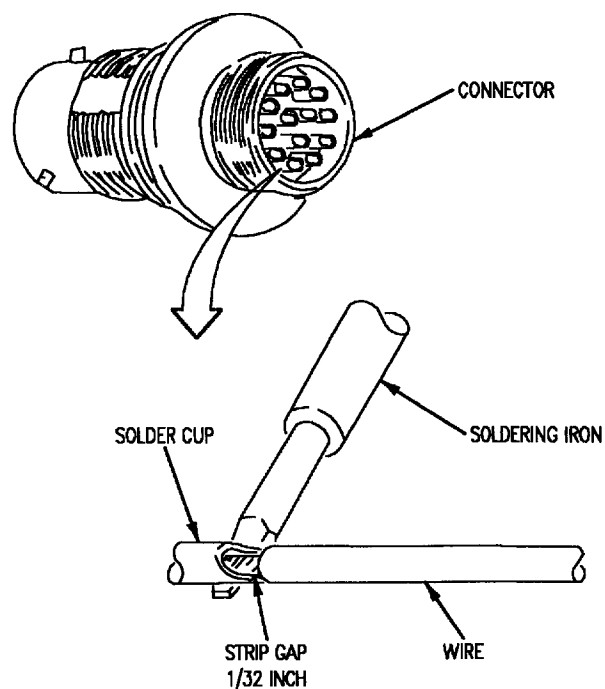
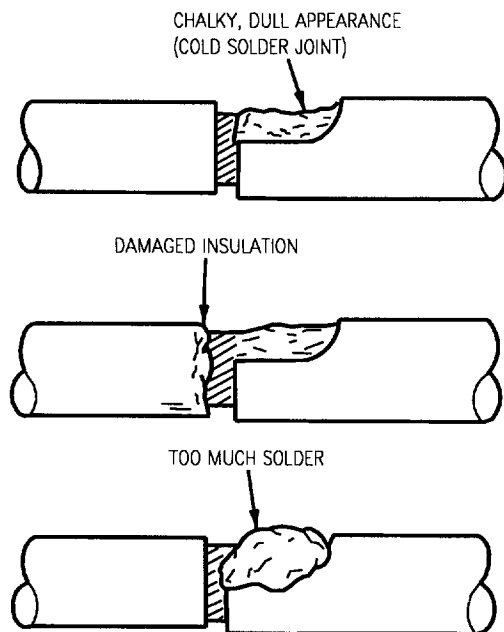


Figure 11. Soldering Wire into Solder Cup

d. Inspect solder joint. Solder should be shiny and flow smoothly from center conductor to solder cup. Conditions shown in figure 12 are unacceptable:

- (1) Chalky, dull appearance (cold solder joint).
- (2) Damaged insulation.
- (3) Too much solder.



F/A-18-WRM-(412-1)01-CAT1

Figure 12. Unacceptable Conditions After Soldering

11. CONNECTOR REASSEMBLY PROCEDURES.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. If dirty, clean wires using isopropyl alcohol. Clean all areas to be etched. Dry with shop air or a clean cloth.

WARNING

Etching solution is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

NOTE

Apply etching solution for a minimum of five to ten seconds.

- b. Etch wires a minimum of 1/10 inch above location of potting mold when assembled. Establish measurement by slipping potting mold over wires. Remove plastic mold before etching wires.

- c. Neutralize etching solution on wires by holding under water for five to ten seconds. Preferably running water. Dry with shop air or a clean cloth.

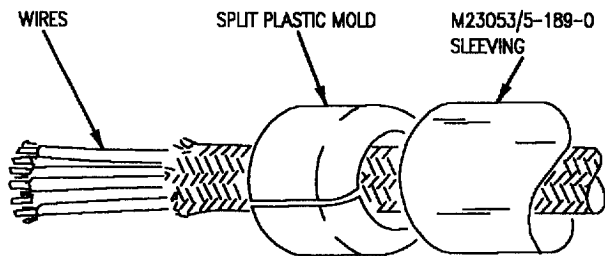
d. Rinse a second time with isopropyl alcohol for five to ten seconds. Dry with shop air or a clean cloth.

e. Inspect etched wires for light beige to dark brown color. Color should be uniform, not broken or spotted after rinsing.

f. Split the plastic mold. Put one layer of insulation tape on inside of plastic mold. Allow ends of tape to overlap.

g. Slide a 2-1/2 inch length of M23053/5-109-0 shrink sleeving over the wires and remaining bundle braid.

h. Slip plastic mold over wires. Push plastic mold back to allow room to solder wires in connector. See figure 13.



F/A-18-WRM-(786-5)02-SCAN

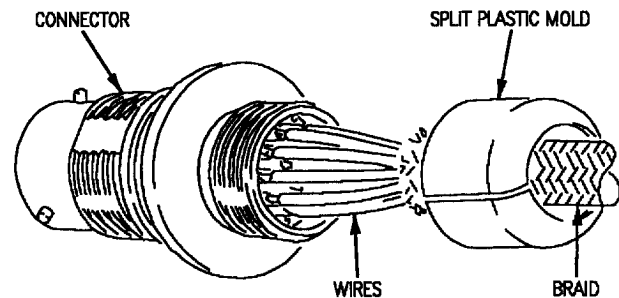
Figure 13. Slip Plastic Mold over Bundle

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

i. Brush solder pots with cleaning compound until clean. Dry with shop air or air dry.

j. Tin and solder wires using soldering iron. Refer to paragraph 7. See figure 14.



F/A-18-WRM-(786-6)02-SCAN

Figure 14. Soldering Wires in Connector

WARNING

Adhesive primer is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

Avoid brushing adhesive primer on body of connector and plastic mold.

k. Brush coat a thin layer of adhesive primer to wires, and contacts.

l. Prime wires an additional 1/2-inch beyond area that is etched.

m. Air dry adhesive primer for fifteen minutes. Apply 180° to 225°F heat for thirty minutes in electric curing oven.

n. Slide plastic mold on wires to back of connector.

o. Tape plastic mold to connector so it is snug and will not leak sealing compound. See figure 15.

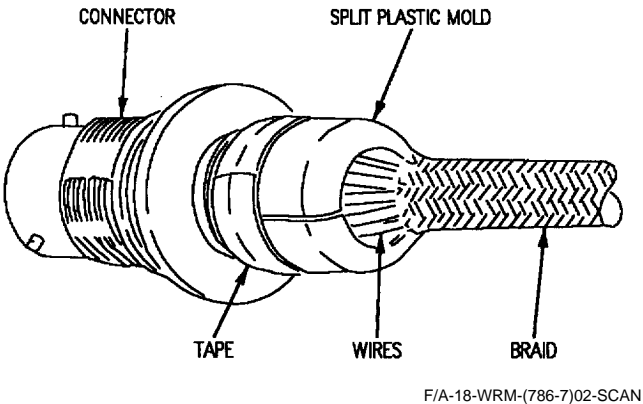


Figure 15. Taping Plastic Mold to Connector

WARNING

Sealing compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

NOTE

Avoid air pockets by filling sealing compound slowly. Fill plastic mold from bottom.

p. Fill plastic mold with MIL-S-8516 type 1 class 3 sealing compound. See figure 16.

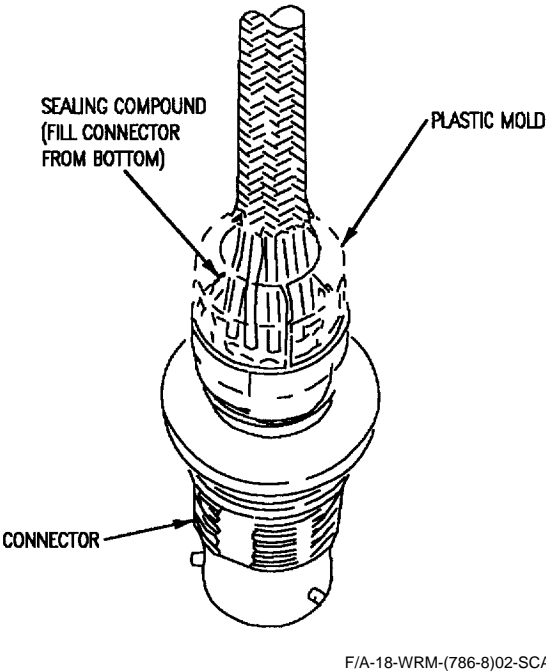


Figure 16. Filling Plastic Mold with MIL-S-8516 Type 1 Class 3 Sealing Compound

- q. Cure sealing compound per table 1 below.
- r. Remove plastic mold and tape.

Table 1. MIL-S-8516 Type 1 Class 3 Sealing Compound Cure Time

Temperature (°F)	Curing Time (Hours)
60	50
70	40
80	30
90	20
100	10
110	8
120 Max.	6

WARNING

Trichloroethane is toxic to skin, eyes, and respiratory tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally enough.

s. Clean sealing compound on connector with Trichloroethane prior to MIL-S-83430 Class A-1/2 sealing compound application. Wipe with a clean cloth before it evaporates.

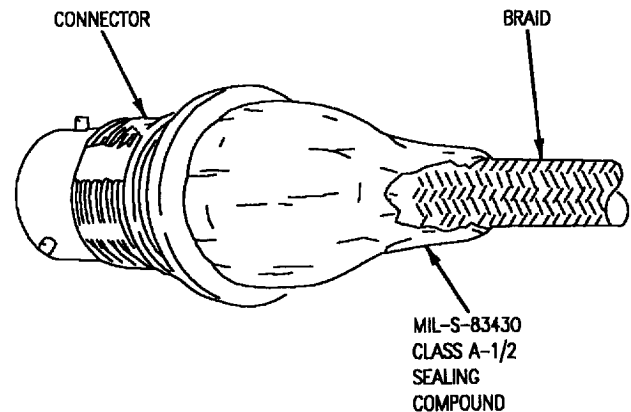
WARNING

Sealing compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

NOTE

Keep wires separated and insure that all wires are completely covered with MIL-S-83430 Class A-1/2 sealing compound.

t. Brush MIL-S-83430 Class A-1/2 sealing compound over MIL-S-8516 sealing compound, wires and end of braid. See figure 17.



F/A-18-WRM-(786-9)02-SCAN

Figure 17. Application of MIL-S-83430 Class A-1/2 Sealing Compound

u. Cure MIL-S-83430 Class A-1/2 sealing compound with heat at 140°F for 2-1/2-hours with electric curing oven; obtain tack free condition.

WARNING

Trichloroethane is toxic to skin, eyes, and respiratory tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally enough.

v. Clean sealing compound with trichloroethane before second application of MIL-S-83430 Class A-1/2 sealing compound. Wipe with a clean cloth before it evaporates.

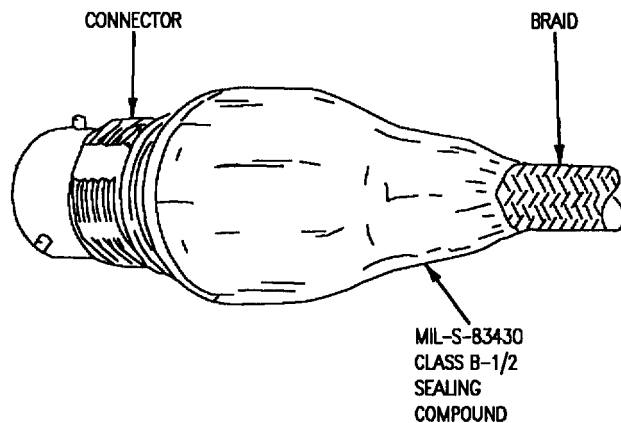
WARNING

Sealing compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

NOTE

String ties and tape are not used on wire bundles installed in fuel tanks.

w. Apply 1/8-inch thick coat of MIL-S-83430 CLASS B-1/2 sealing compound with a wooden spatula from connector back over sealing compound and braid. See figure 18.



F/A-18-WRM-(786-10)02-SCAN

Figure 18. Application of MIL-S-83430 Class B-1/2 Sealing Compound

x. Cure sealing compound with electric curing oven. Accelerated cure time is 140°F for 1 hour.

y. After compound is cured slide the length of sleeving over the sealing compound and sealed area of the connector.

WARNING

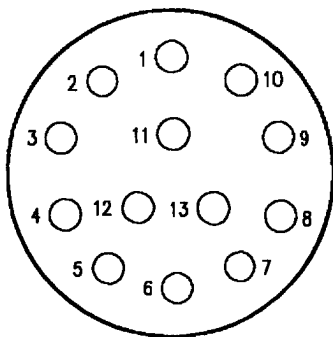
To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

NOTE

Modify length of shrink sleeving so complete sealed area is covered when sleeving is shrunk in place.

z. Shrink in place using heat tool.



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(911-13)01-CATI

Reference Designation to Backshell Data Index for 10-550598-35P Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
5J-E035	None	This WP
5J-F035	None	This WP
5J-U036	None	This WP
5J-V040	None	This WP

Table 1. Tool Data

ITEM	TOOL NUMBER
Soldering Iron	W60-3

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 13	1/8	Solder Contacts	N/A

Figure 19. 10-550598-35P Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****165-XX-XXXX (5M30-XX-XXXX)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Record of Applicable Technical Directives


None

Reference Designation to
Figure Number IndexReference
Designation

Figure No.

15P-H002

27

 15P-K010

28

LEGEND F/A-18B

1. DESCRIPTION.

2. The 165-62 is a small electrical connector consisting of 20 socket type contacts which has a base for coax adapter. All contacts are soldered. The connector has a temperature range of -65° to +257°F.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector
HT-900	Heat Tool
1317AS100-1	Nitrogen Servicing Unit-NAN-3

Materials Required

Specification or Part Number	Nomenclature
MIL-T-43435TYPE-2 SIZE-3FINISH-C	Lacing Tape
MIL-S-8516 TYPE2 CLASS3	Sealing Compound
M23053/5-XXX-0	Shrink Sleeve
MIL-I-46852, TYPE 2, 1.000IN.BLK	Silicone Rubber Tape
SN60WRMAP2-0-040	Solder
EC1945 BA	Primer Adhesive
TT-I-735 GRADE B	Isopropyl, Alcohol
TETRAETCH20ZBT	Etching Solution

4. BACKSHELL DISASSEMBLY PROCEDURE.

a. Cut and remove spot tie. See figure 1.

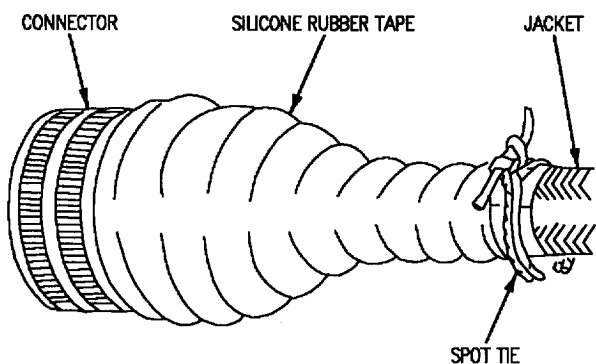


Figure 1. Removing Spot Tie

b. Remove silicone rubber tape from connector wires and plastic mold. See figure 2.

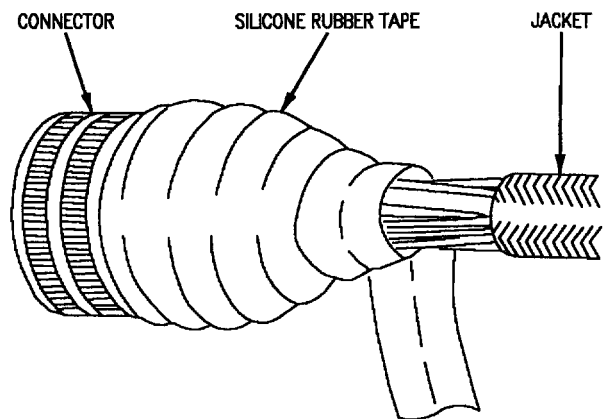


Figure 2. Removing Silicone Rubber Tape

c. Remove plastic mold and slide back cable jacket. See figure 3.

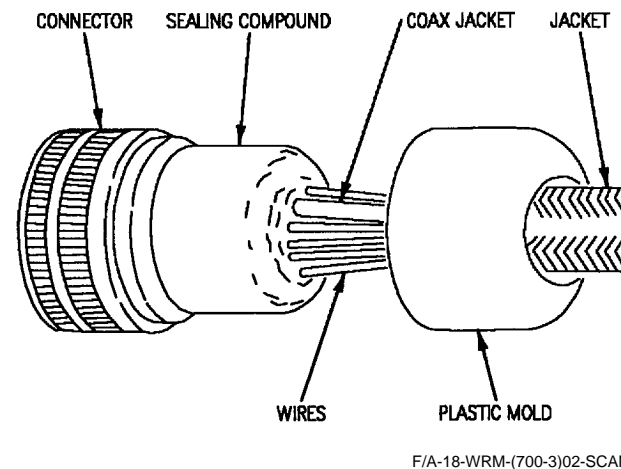
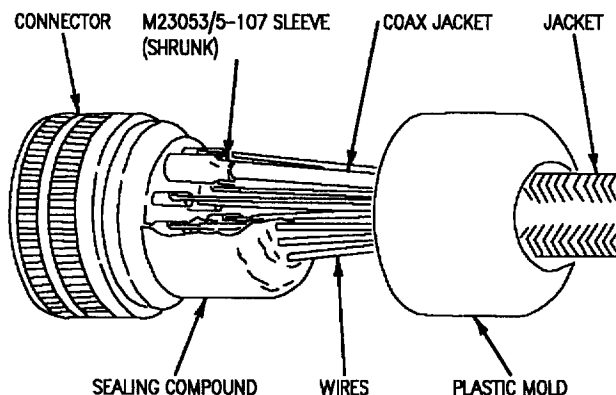


Figure 3. Removing Plastic Mold

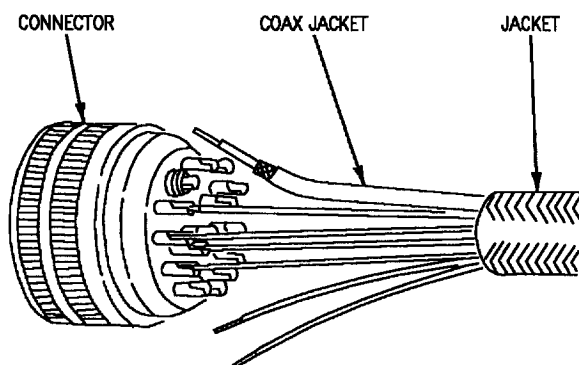
d. Remove sealing compound from connector and from around wires with a wood spatula or pick. See figure 4.



F/A-18-WRM-(700-4)02-SCAN

Figure 4. Removing Sealing Compound

e. Unsolder wires and coax adapter, using soldering iron tool refer to paragraph 12. See figure 5.



F/A-18-WRM-(700-5)02-SCAN

Figure 5. Unsolder Wires

5. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

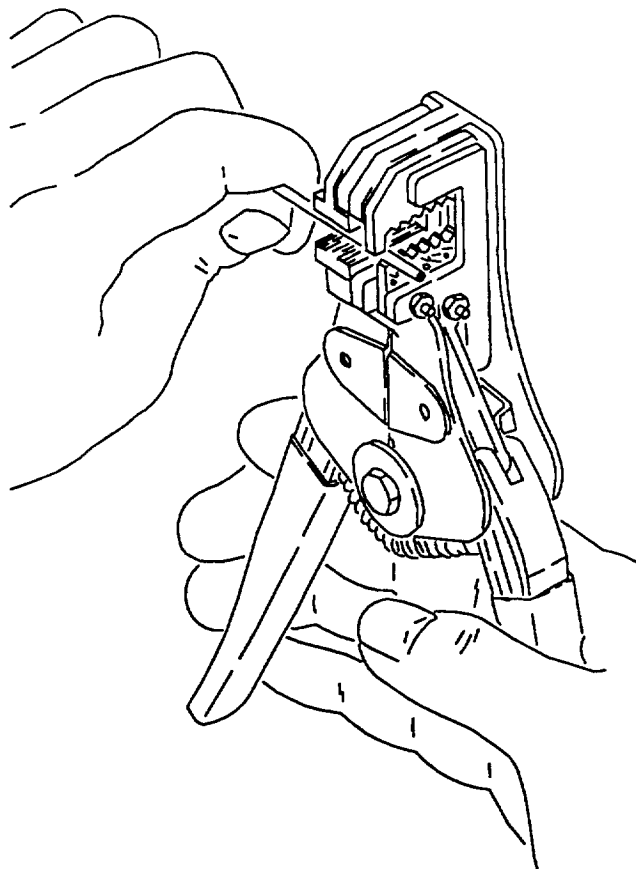
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

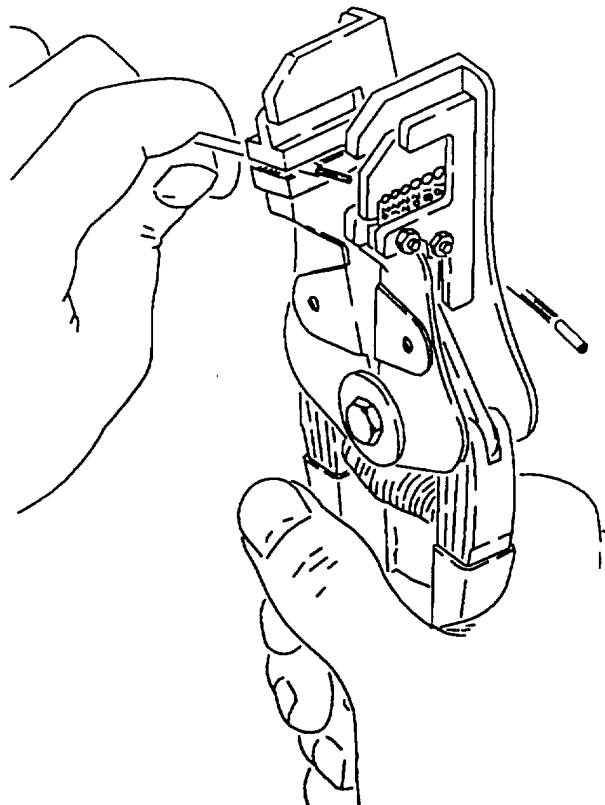
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 6.



F/A-18-WRM-(401-1)01-SCAN

Figure 6. Placing Wire in Slot of Stripping Tool

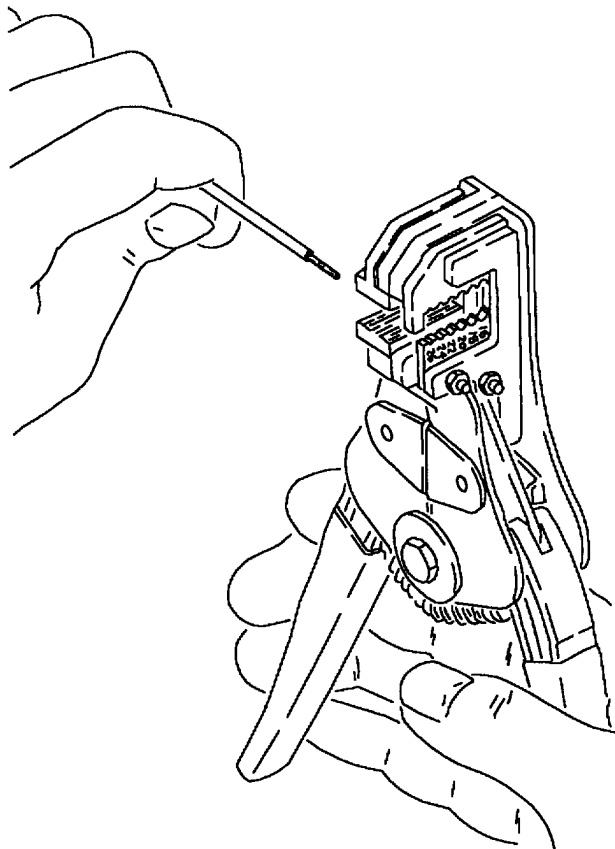
e. Close handles together as far as they will go. See figure 7.



F/A-18-WRM-(402-1)01-SCAN

Figure 7. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 8.

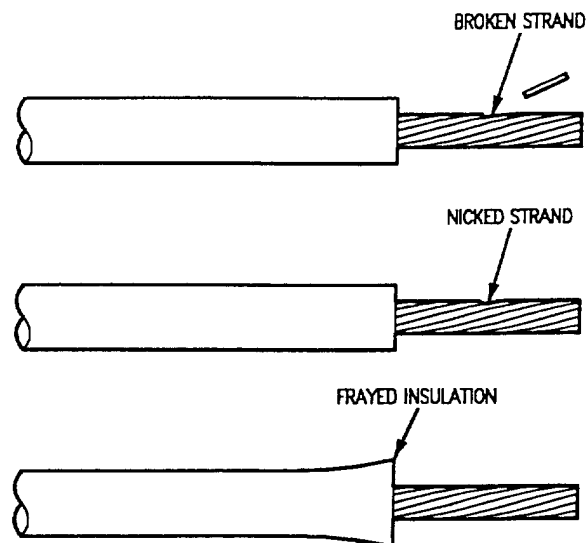


F/A-18-WRM-(403-1)01-SCAN

Figure 8. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 9 are unacceptable.



F/A-18-WRM-(404-1)01-CAT1

Figure 9. Unacceptable Conditions

7. COAX REPAIR PROCEDURES.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

8. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers
see WP010 00.

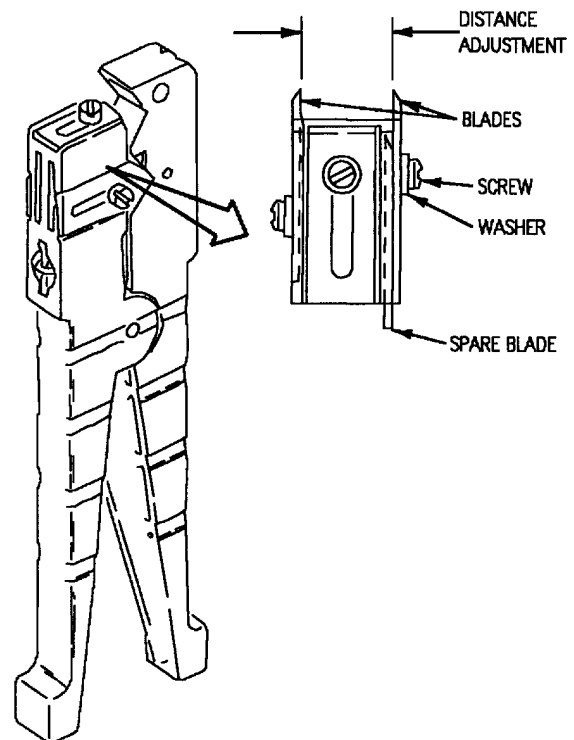
9. DISTANCE ADJUSTMENT.

- a. Measure distance between blades. See figure 10.
- b. Remove screws and add or subtract spare blades
as required to get correct distance.

NOTE

Adding or subtracting two spare blades will
change distance between blades $\frac{3}{64}$ -inch.

- c. Install screws and tighten handtight.
- d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

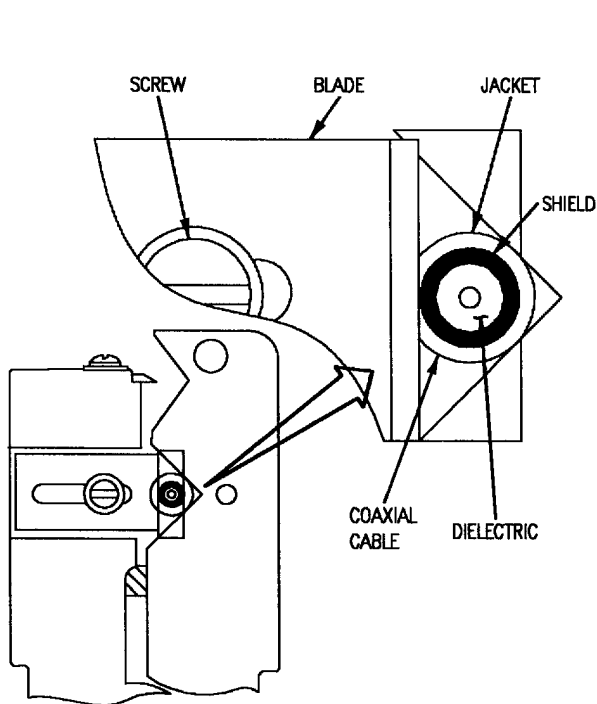
Figure 10. Distance Adjustment

10. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare coax before stripping coax to be used.

- a. Position coaxial cable in stripper until the end butts against the blade. See figure 11.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



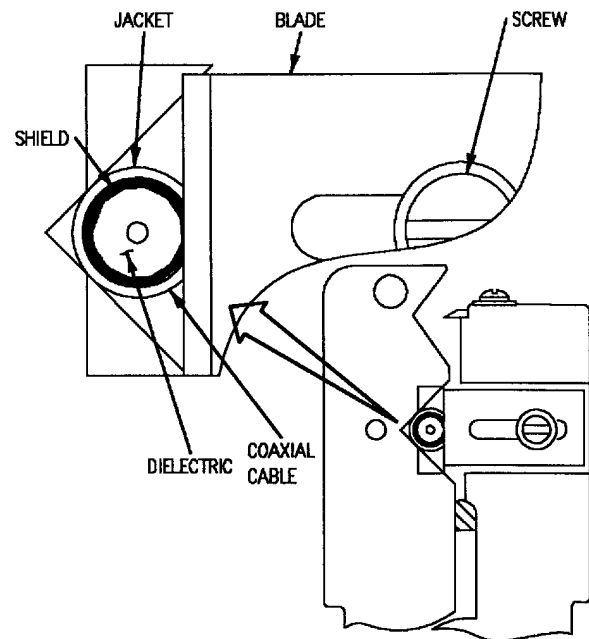
F/A-18-WRM-(409-3)01-CATI

Figure 11. Jacket Cut Adjustment

- c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 12.

- d. Adjust blade so it cuts through shield without damaging dielectric.

- e. If required, repeat steps 10a through 10d until blades cut through jacket and shield without damaging shield and dielectric.



F/A-18-WRM-(409-4)01-CATI

Figure 12. Shield Cut Adjustment

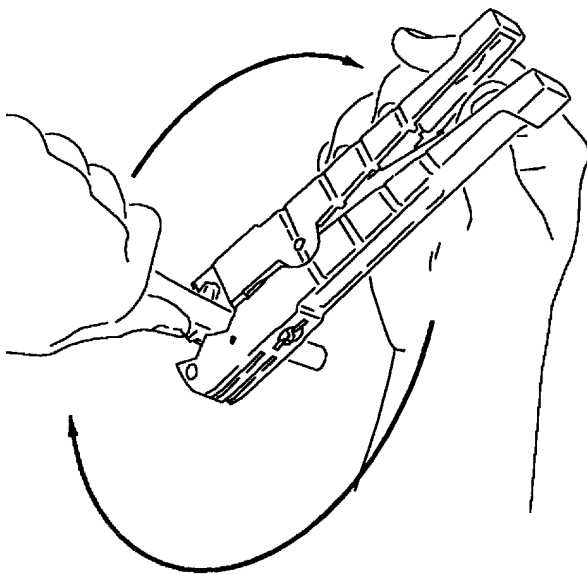
11. USE.

- a. Position stripper on cable so that blades face down. See figure 13.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

- b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.
- c. Remove stripper from cable.
- d. Remove stripped jacket and shield.



F/A-18-WRM-(409-1)01-SCAN

Figure 13. Operation**12. SOLDERING.**

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

13. Soldering provides a mechanical and electrical bond between metallic components. To get a good solder joint, all surfaces must be clean. The soldering iron must be clean and tinned with a thin layer of solder to conduct heat. Excessive solder on the soldering iron tip may cause solder to splash on nearby components. A damp cloth can be used to wipe excess solder and residue from soldering iron tip.

14. TINNING WIRES.

- a. Clean and tin soldering iron.
- b. Make sure conductor wires are twisted together in the same direction as the lay of wire.

c. Apply heat and solder conductor. Remove heat when solder flows into conductor. Apply only enough solder to join wires together. Individual wires should be coated with solder yet their shape visible. See figure 14.

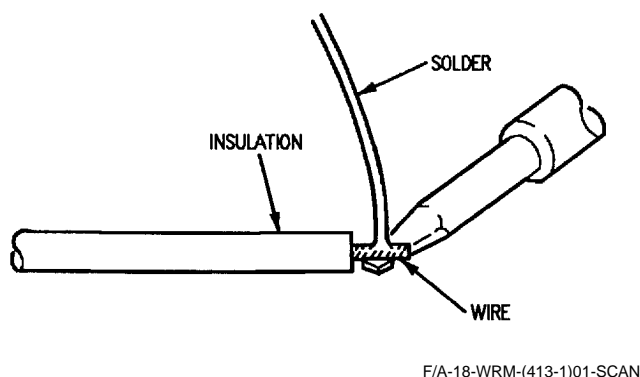


Figure 14. Tinning Wire

d. Conditions shown in figure 15 are unacceptable.

- (1) Individual wires not joined to center conductor.
- (2) Excessive solder.
- (3) Damaged Insulation.

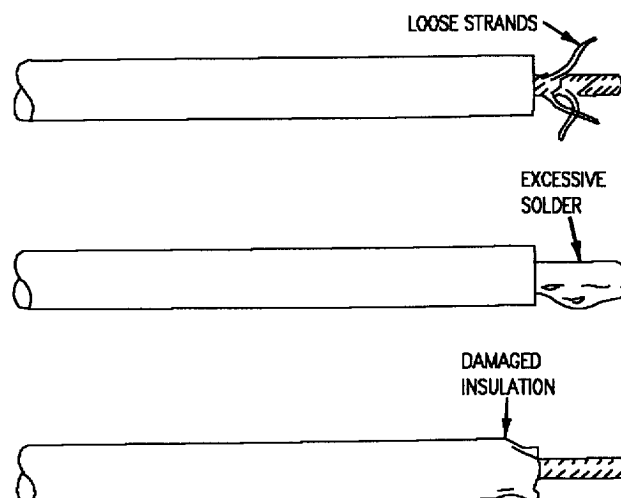
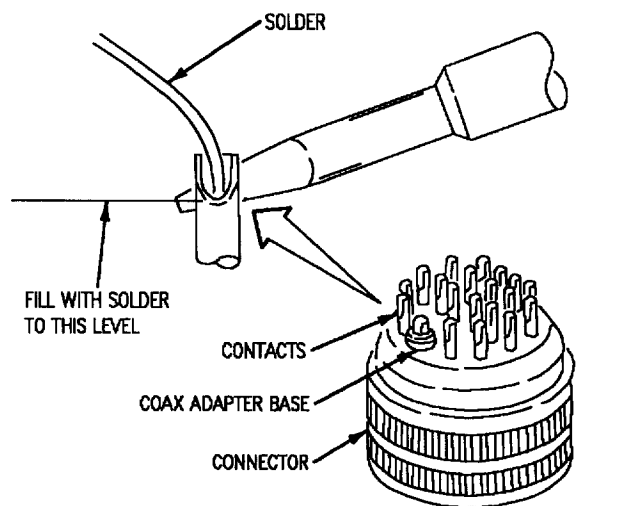


Figure 15. Unacceptable Conditions After Tinning

15. SOLDERING WIRES IN CONNECTOR.

- a. Clean and tin soldering iron.

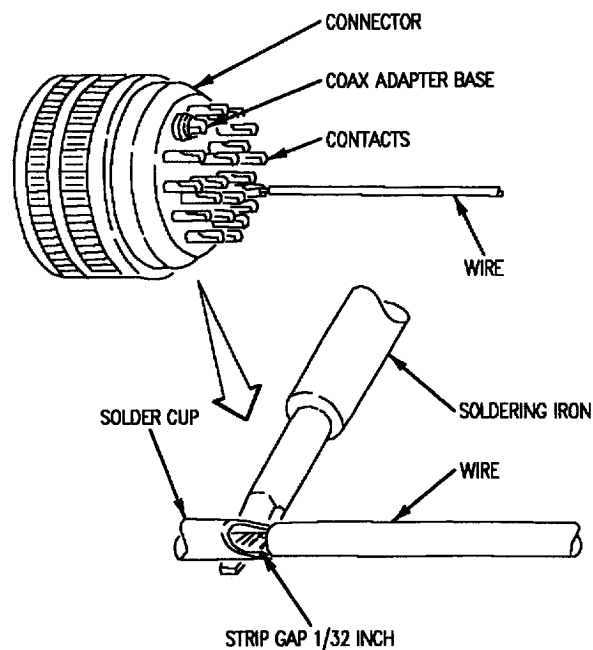
b. Apply heat to solder cup and fill cup with solder. Avoid getting solder on outside of solder cup. See figure 16.



F/A-18-WRM-(700-6)02-SCAN

Figure 16. Filling Solder Cup

c. Position wire in solder cup and apply heat to solder cup. When solder melts, slide wire into solder cup. Remove heat as soon as solder flows between wire and solder cup. Hold wire steady until solder hardens. See figure 17.

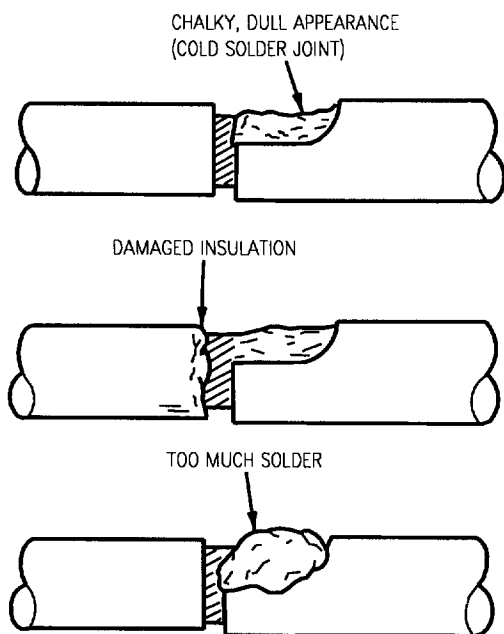


F/A-18-WRM-(700-7)02-SCAN

Figure 17. Soldering Wire into Solder Cup

d. Inspect solder joint. Solder should be shiny and flow smoothly from wire to solder cup. Conditions shown in figure 18 are unacceptable.

- (1) Chalky, dull appearance (cold solder joint).
- (2) Damaged insulation.
- (3) Too much solder.



F/A-18-WRM-(412-1)01-CATI

Figure 18. Unacceptable Conditions After Soldering

16. WIRE ASSEMBLY PROCEDURE.

WARNING

Etching solution is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Apply tetraetch etching solution to all wires to a length of 1 inch or approximately 1/10 inch above plastic mold when connector is assembled.

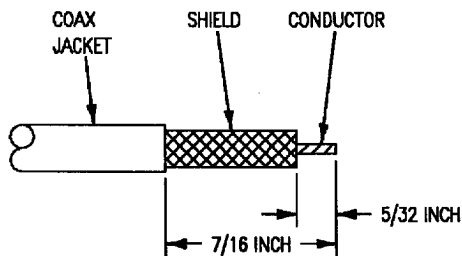
WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

b. After etching wires, rinse in water and wipe clean with clean cloth soaked in isopropyl alcohol.

c. Solder wires into connector using soldering iron. Refer to paragraph 12.

d. Strip coax wire using coax strippers per paragraph 8. See figure 19.

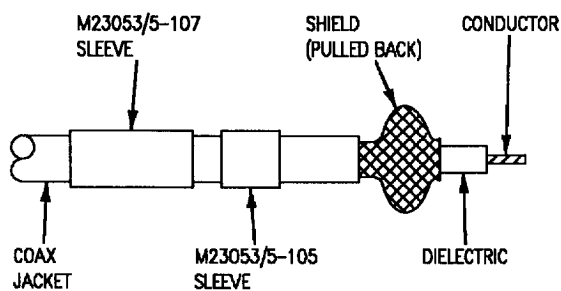


F/A-18-WRM-(713-1)02-CATI

Figure 19. Coax Stripping Dimensions

e. Slide MS23053/5 sleeve (3/8 inch) over coax jacket.

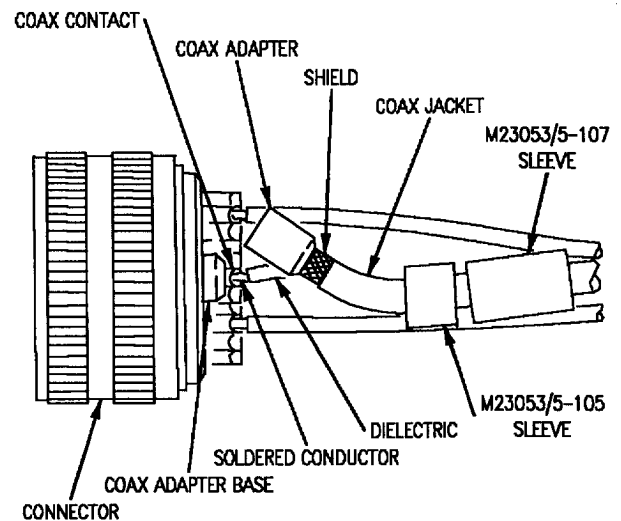
f. Slide sleeve (3/16 inch) over coax jacket. See figure 20.



F/A-18-WRM-(713-2)02-CATI

Figure 20. Installing Shrink Sleeve

g. Place coax adapter over end of coax and insert conductor into coax contact until dielectric butts on contact. Solder conductor into well of contact using soldering iron. See figure 21.



F/A-18-WRM-(700-8)02-SCAN

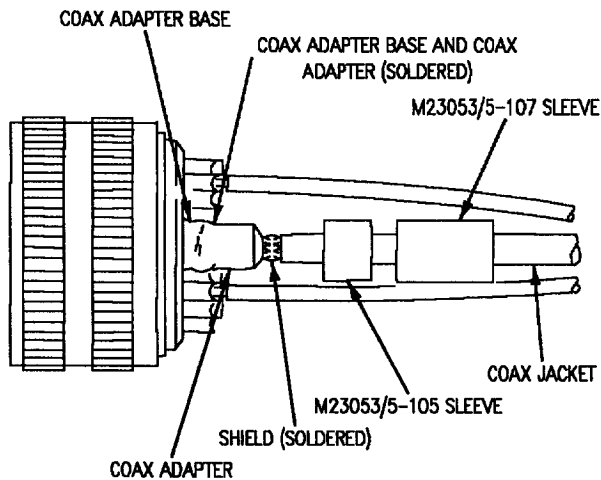
Figure 21. Installing Coax Center Conductor

h. Move coax adapter onto contact until it seats on adapter base and solder.



To prevent grounding of coax center contact, ensure that no strands of the shield come into contact with the coax contact pin.

i. Pull shield over neck of adapter until it butts against barrel of adapter and solder using soldering iron. See figure 22.



F/A-18-WRM-(700-9)02-SCAN

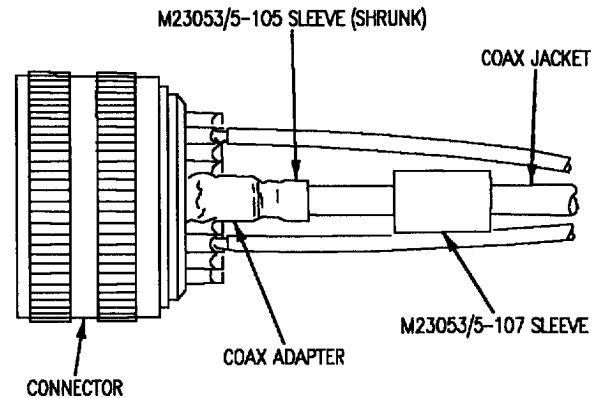
Figure 22. Installation of Coax Adapter

WARNING

To prevent death or injury to personnel, conventional hot air guns must not be used on fueled aircraft. Exposed heating elements may cause fire or explosion.

Use of nitrogen with heat tool in an enclosed area is hazardous. Discharge of nitrogen into a poorly ventilated area such as wheel wells, stand-up bays, or crew stations can result in asphyxiation.

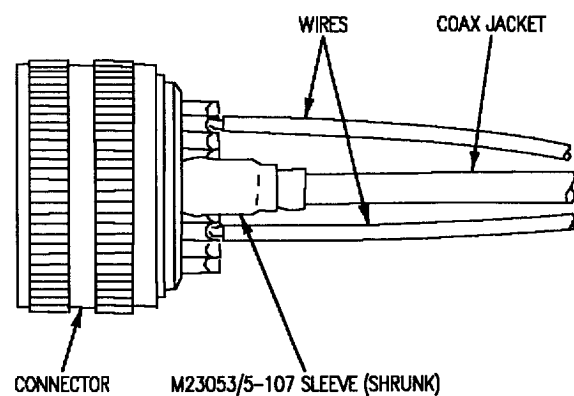
j. Pull sleeve (3/16 inch) over shield and adapter neck and shrink using heat tool. See figure 23.



F/A-18-WRM-(700-10)02-SCAN

Figure 23. Installation of M23053/5-105 Sleeve

k. Pull sleeve (3/8 inch) over coax adapter barrel and shrink using heat tool. See figure 24.



F/A-18-WRM-(700-11)02-SCAN

Figure 24. Installation of M23053/5-107 Sleeve

17. BACKSHELL ASSEMBLY PROCEDURE.

WARNING

Primer adhesive is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

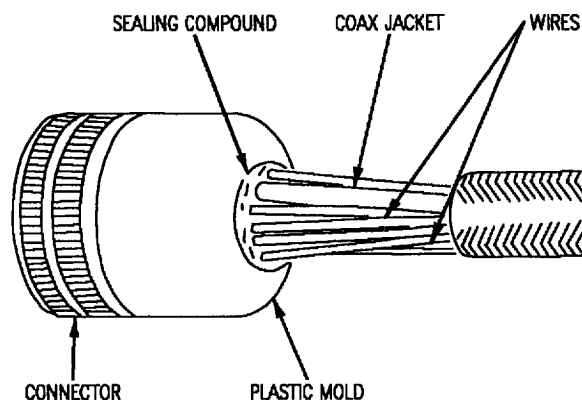
a. Apply a thin coat of primer adhesive to wires, contacts, inserts and plastic mold.

b. Allow primer to dry for 2 hours at room temperature, or until tack free.

WARNING

Sealing compound is flammable and toxic to eyes, skin, and respiratory tract. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

c. Place plastic mold on connector and fill with sealing compound. See figure 25.



F/A-18-WRM-(700-12)02-SCAN

Figure 25. Filling Plastic Mold with Sealing Compound

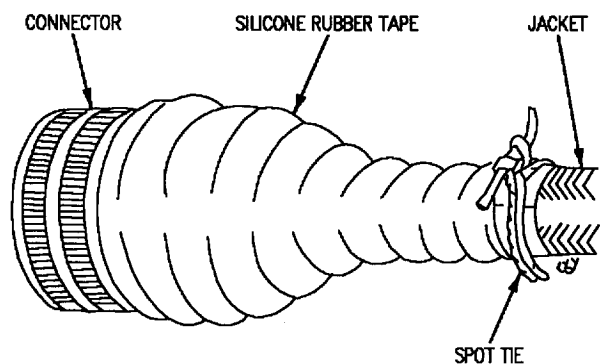
d. Allow sealing compound to dry per table 1 as follows:

Table 1. Sealing Compound Cure Time

TEMPERATURE (° F)	CURING TIME HOURS
60	50
70	40
80	30
90	20
100	10
110	8
120 Max.	6

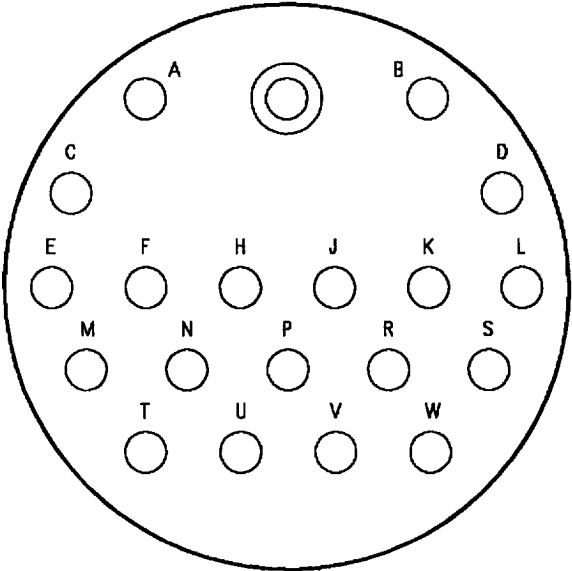
e. Wrap plastic mold and wires with silicone rubber tape.

f. Secure silicone rubber tape end with 2 spot ties using polyester lacing tape. See figure 26.



F/A-18-WRM-(700-1)02-SCAN

Figure 26. Installation of Silicone Rubber Tape



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(817-20)01-CAT1

Reference Designation to Backshell Data Index for 165-62 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
15P-H002	None	This WP

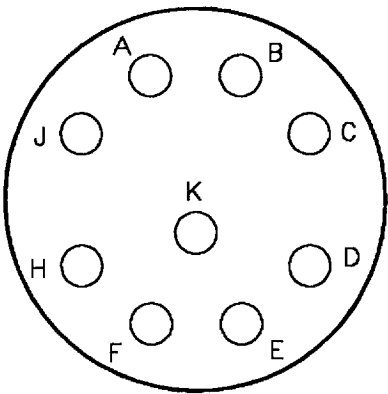
Table 1. Tool Data

ITEM	TOOL NUMBER
Soldering Iron	W60-3

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU W	5/32	SOLDER CONTACTS	N/A

Figure 27. 165-62 Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(813-9)01-CATI

Reference Designation to Backshell Data Index for 165-14-1000 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
15P-K010	None	This WP

Table 1. Tool Data

ITEM	TOOL NUMBER
Soldering Iron	W60-3

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A THRU F, H, J and K	5/32	SOLDER CONTACTS	N/A

Figure 28. 165-14-1000 Connector

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE
WIRING REPAIR WITH PARTS DATA**DPX2NE41723 (MIL-C-81659)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated With Electro-Magnetic	
Interference (EMI) Backshells	WP060 00
Protective Boot Installation for Environmental Type Connectors with	
Metal Cable Clamps	WP080 00
Protective Boot Installation for Environmental Type Connectors with	
Molded Plastic Cable Clamps	WP070 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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





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Record of Applicable Technical Directives

None

Reference Designation to
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79P-J001A	32
79P-J001B	32
80P-H001A	33
80P-H001B	33
80P-J002A	33
80P-J002B	33
80P-J003A	33
80P-J003B	33
 80P-K019A	33
 80P-K019B	33
 80P-L016A	33
 80P-L016B	33
 80P-L017A	33
 80P-L017B	33

LEGEND F/A-18B**1. DESCRIPTION.**

2. The MIL-C-81659 electrical connectors are rectangular, dual insert, environmental resistant type connectors. These connectors use rear release (rear insertion and removal) crimp type contacts. Operating temperature ranges from -65°C to +125°C.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.



Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

4. CORROSION CONTROL

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

5. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

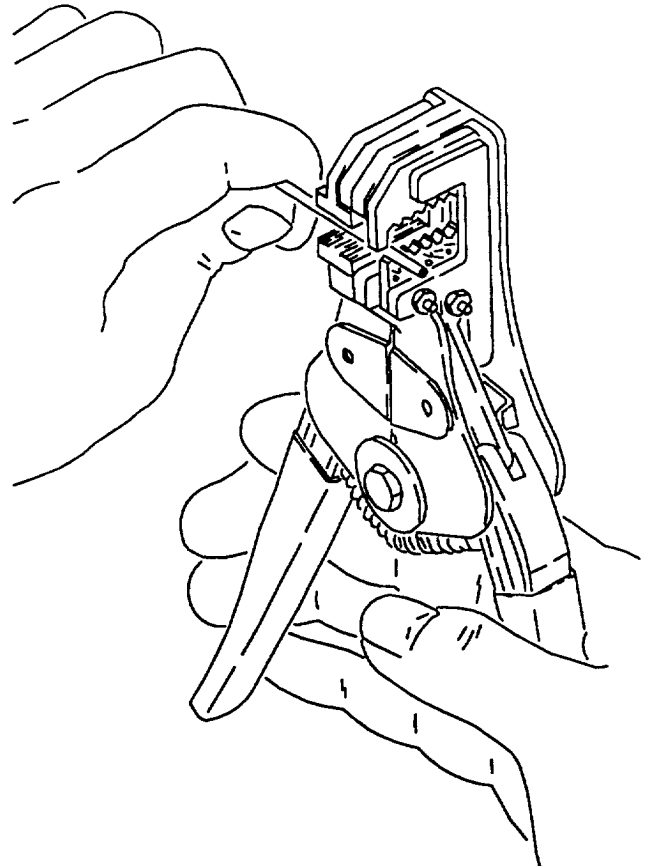
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

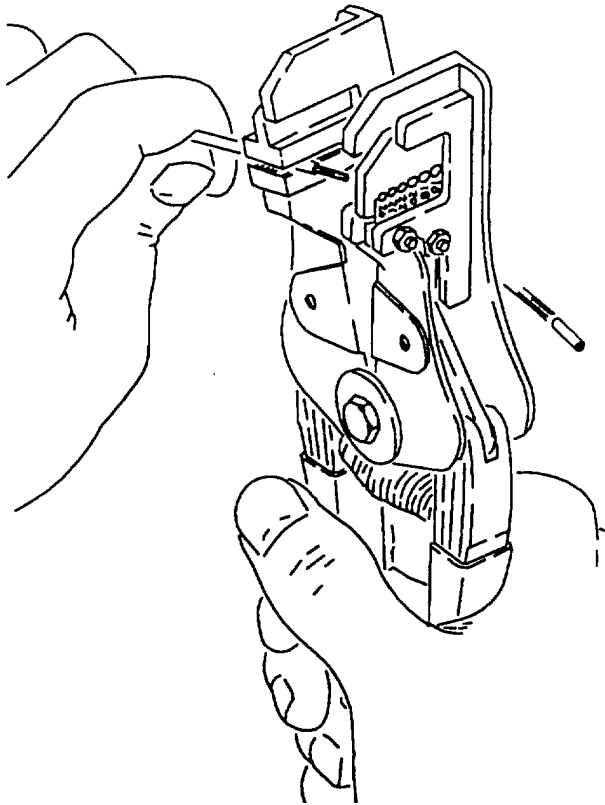
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.



F/A-18-WRM-(401-1)01-SCAN

Figure 1. Placing Wire in Slot of Stripping Tool

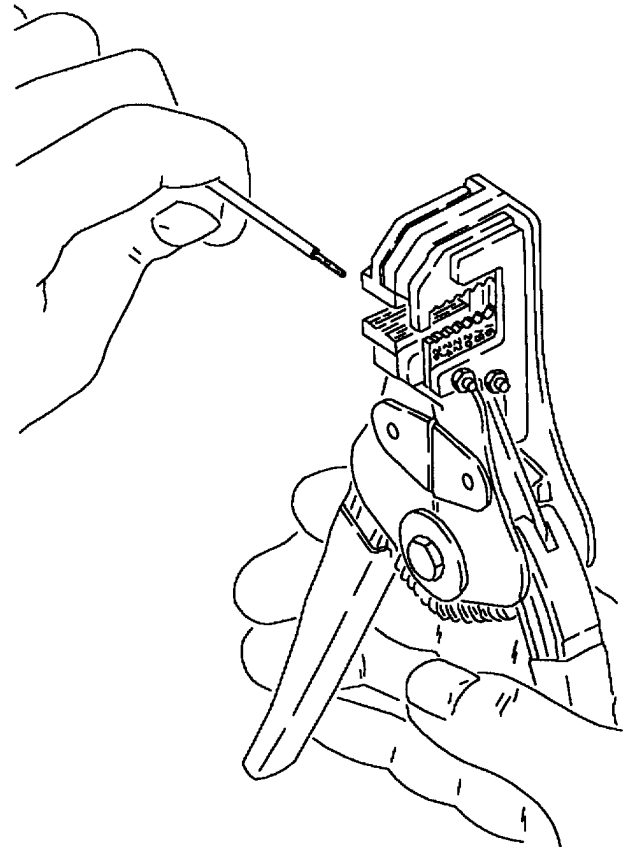
e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.

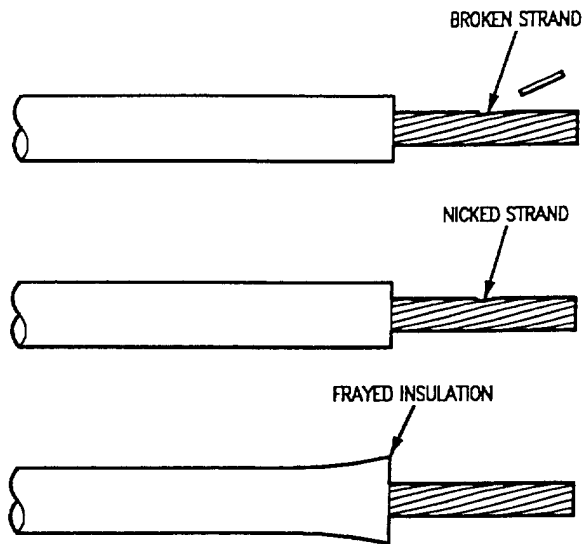


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Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.



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Figure 4. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

8. REMOVAL AND INSTALLATION OF POSITIONER.

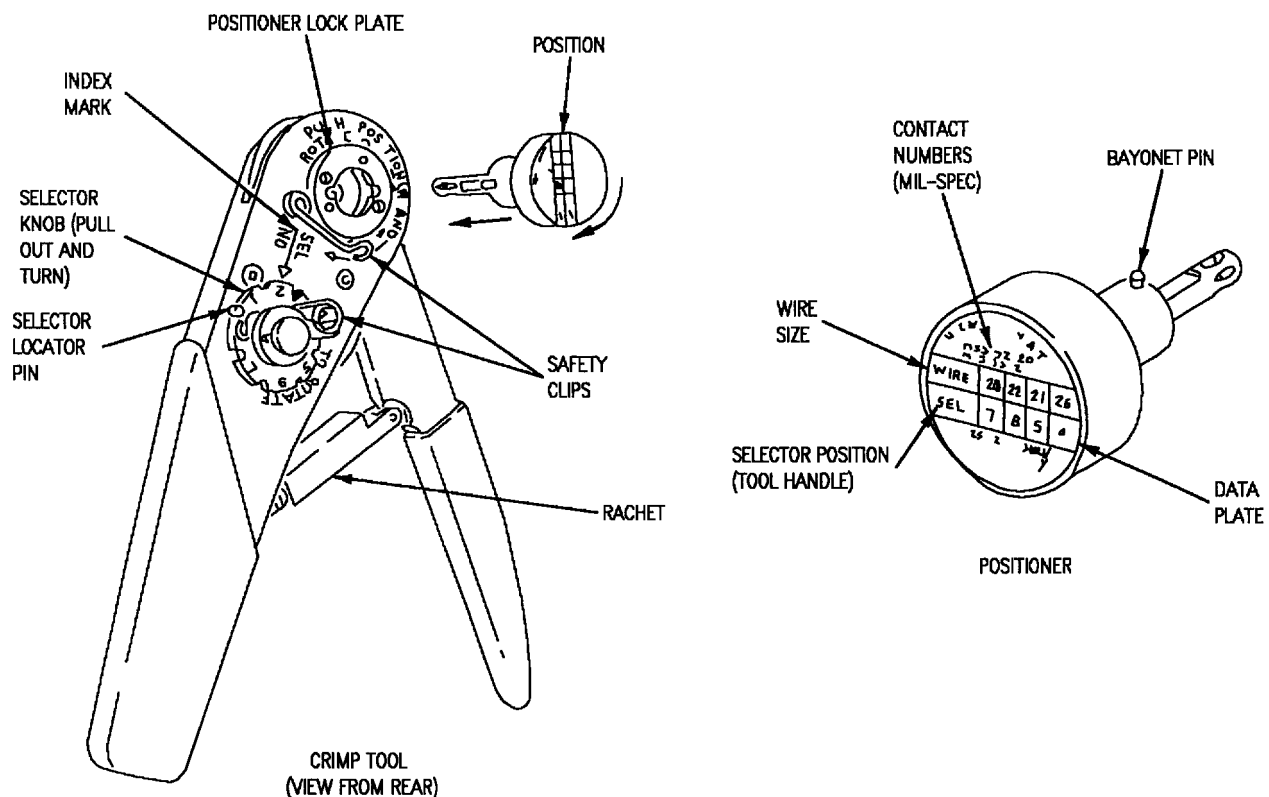
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 5.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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Figure 5. M22520/2-01 Crimp Tool Handle and Positioner

9. SETTING SELECTOR KNOB.

a. Locate wire sizes on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

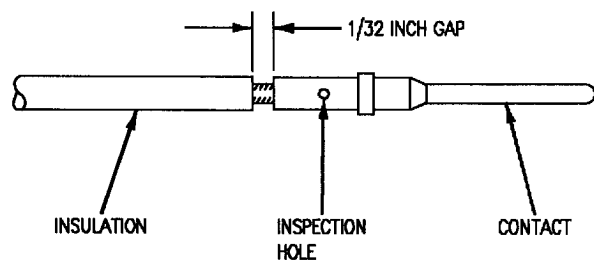
c. Install safety clip.

10. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 6.



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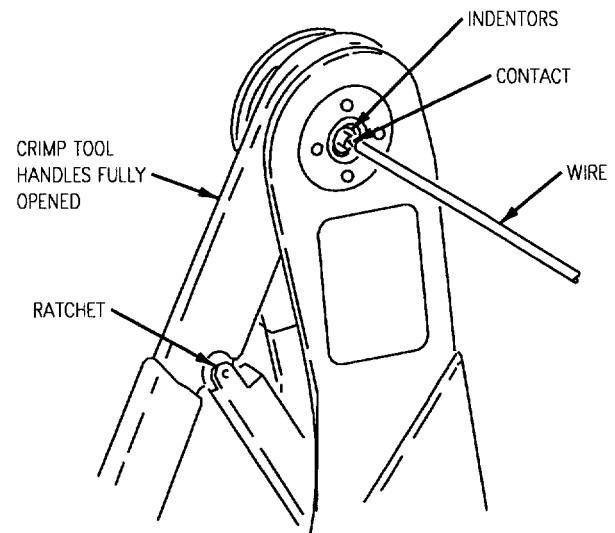
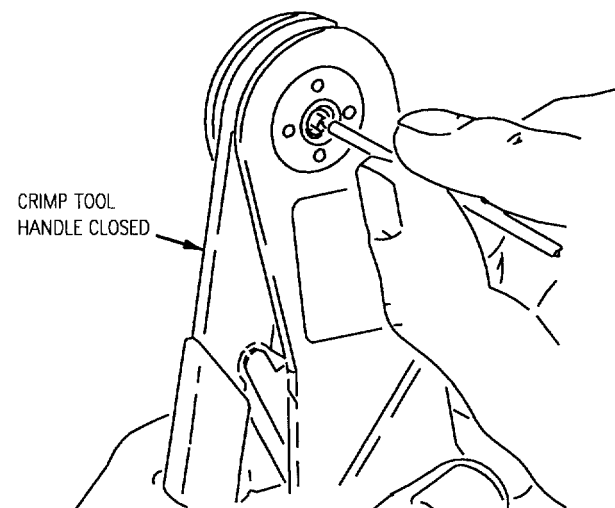
Figure 6. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 7, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 7, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)**DETAIL A****DETAIL B**

F/A-18-WRM-(407-1)01-CATI

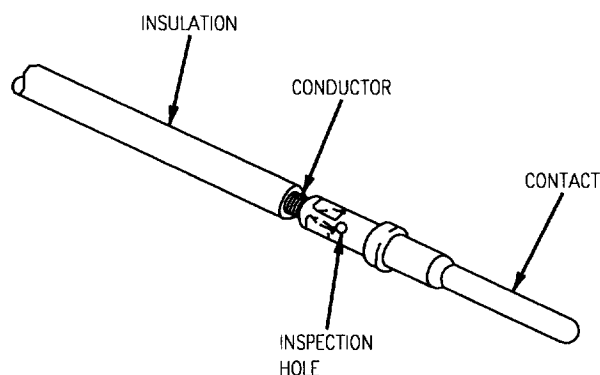
Figure 7. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 8.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(721-2)02-CATI

Figure 8. Inspection of Crimped Contact

11. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

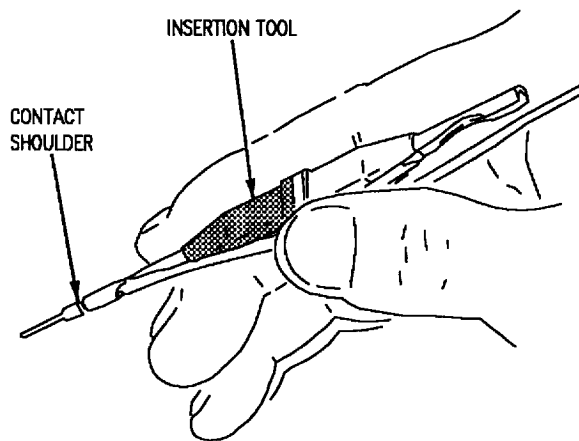
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly insertion tool and position tool tip over to butt contact shoulder. See figure 9.



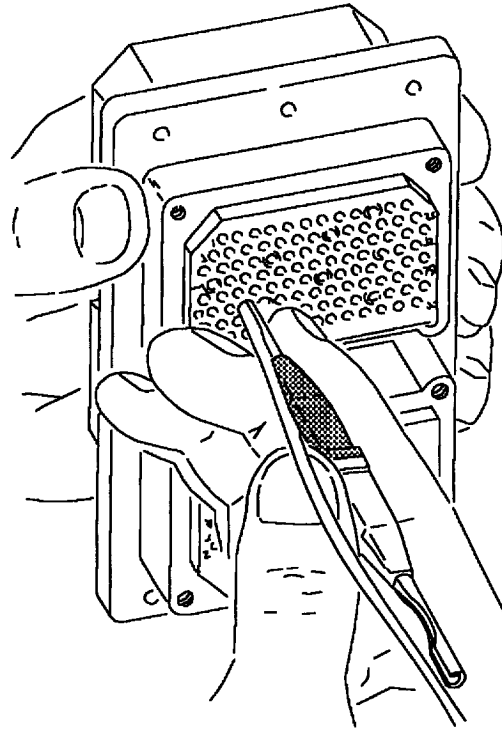
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(721-3)02-SCAN

Figure 9. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 10.

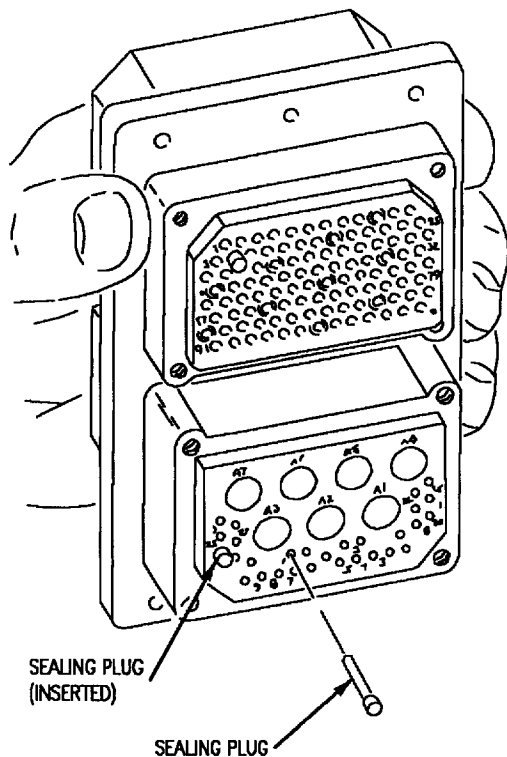


F/A-18-WRM-(725-14)02-SCAN

Figure 10. Inserting Contacts into Connector

f Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 11.



F/A-18-WRM-(725-1)02-SCAN

Figure 11. Inserting Sealing Plug(s) into Connector

12. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring,

a. If backshell requires disassembly, do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

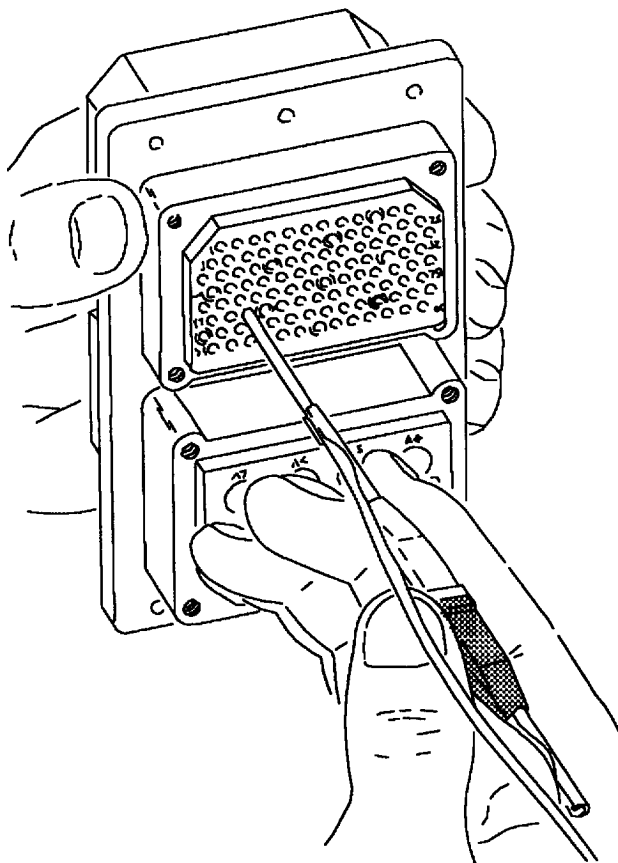


Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

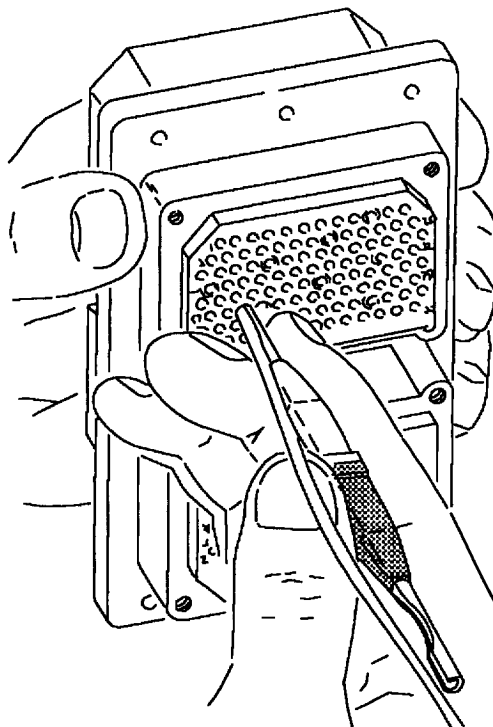
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 12.



F/A-18-WRM-(725-2)02-SCAN

Figure 12. Removal Tool on Wire

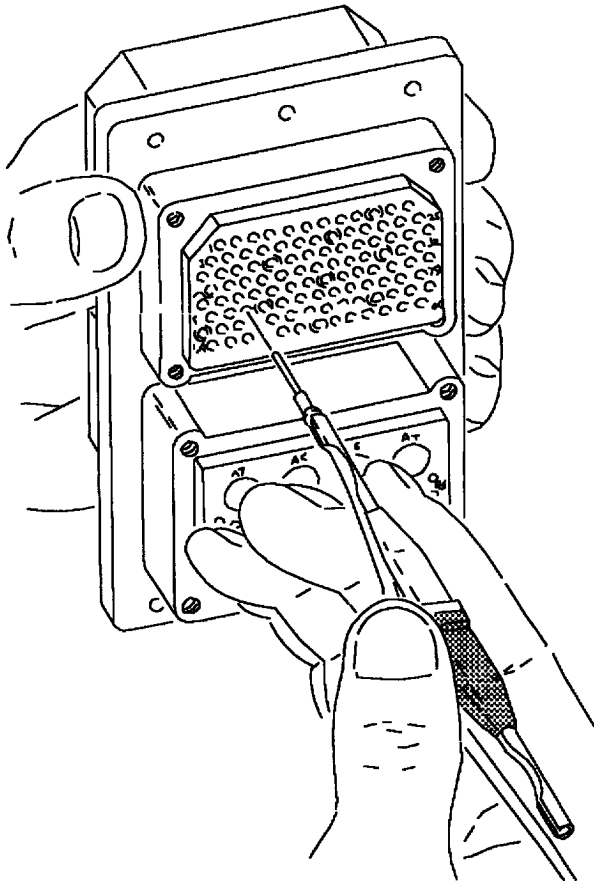
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 13.



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Figure 13. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 14.



F/A-18-WRM-(725-4)02-SCAN

Figure 14. Removing Contact from Connector

13. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

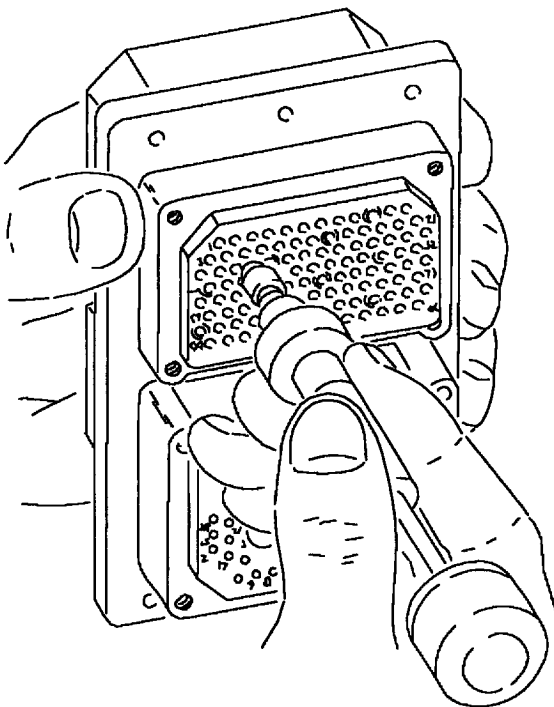
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

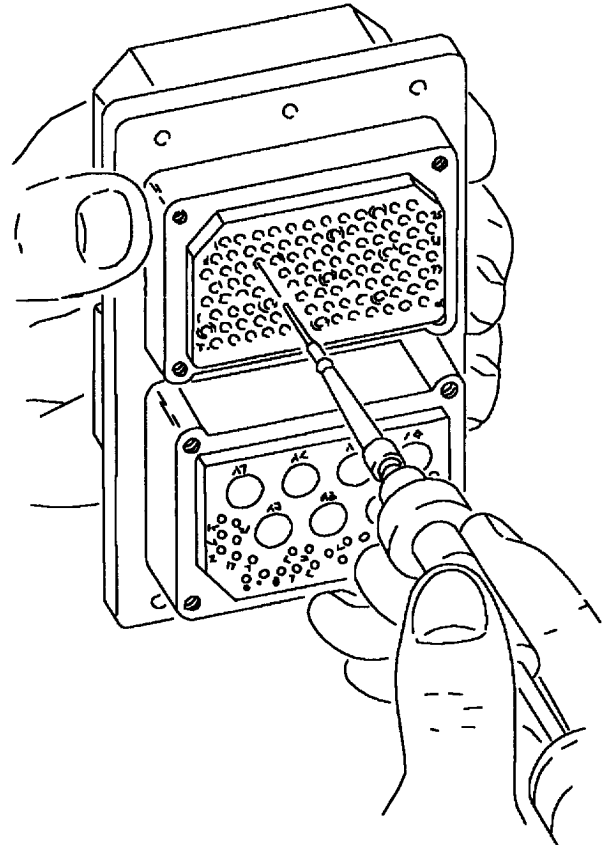
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 15.



F/A-18-WRM-(725-5)02-SCAN

Figure 15. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 16.



F/A-18-WRM-(725-6)02-SCAN

Figure 16. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

14. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

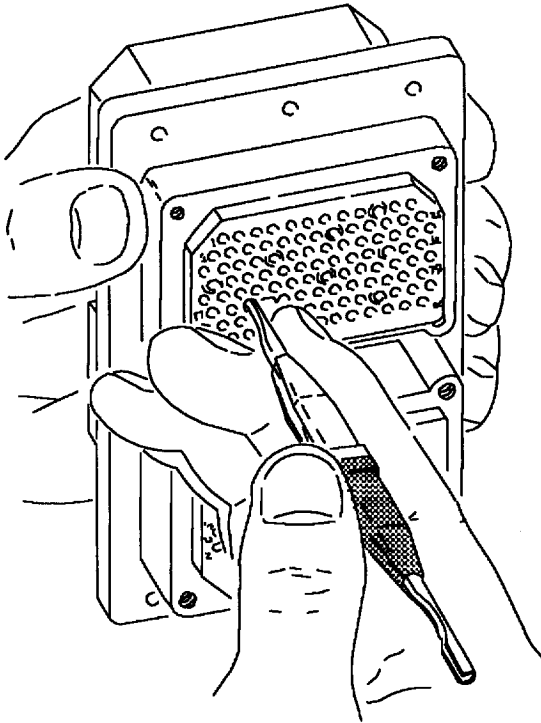
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 17.



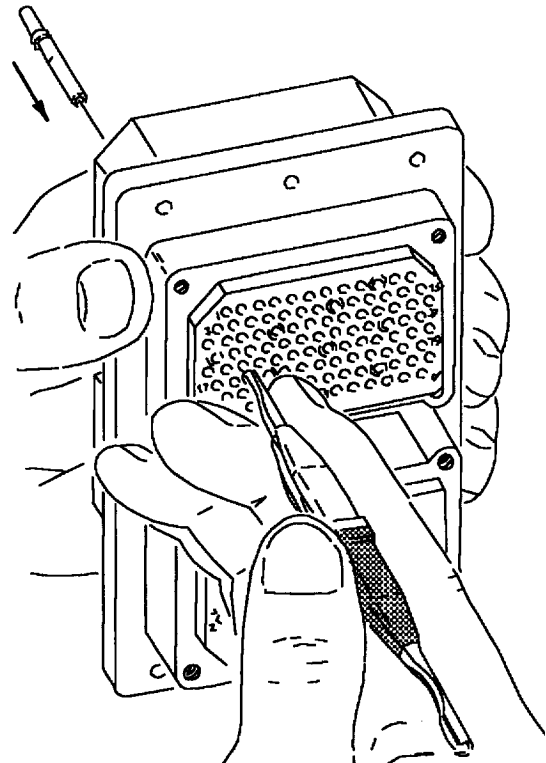
F/A-18-WRM-(725-7)02-SCAN

Figure 17. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 18.



F/A-18-WRM-(725-8)02-SCAN

Figure 18. Broken Wire Contact Removal

15. TRIAX REPAIR PROCEDURES.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

16. TRIAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of triaxial wire strippers see WP010 00.

17. DISTANCE ADJUSTMENT.

a. Measure distance between blades. See figure 19.

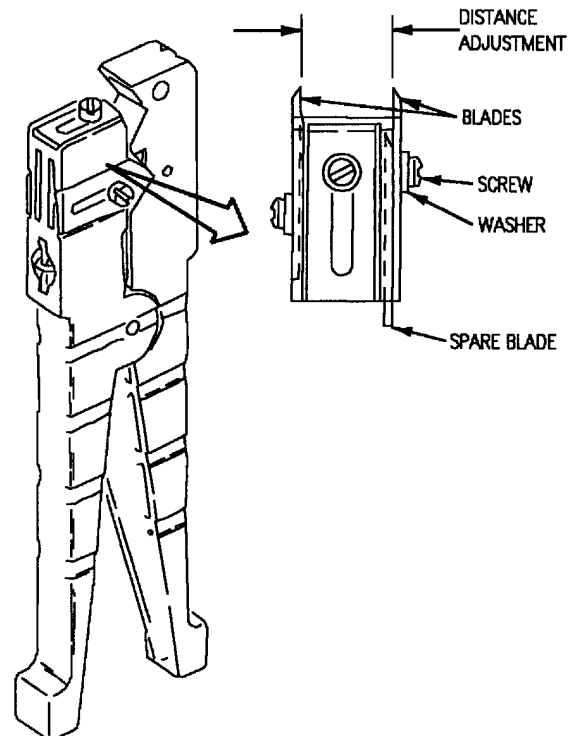
b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades 3/64-inch.

c. Install screws and tighten handtight.

d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

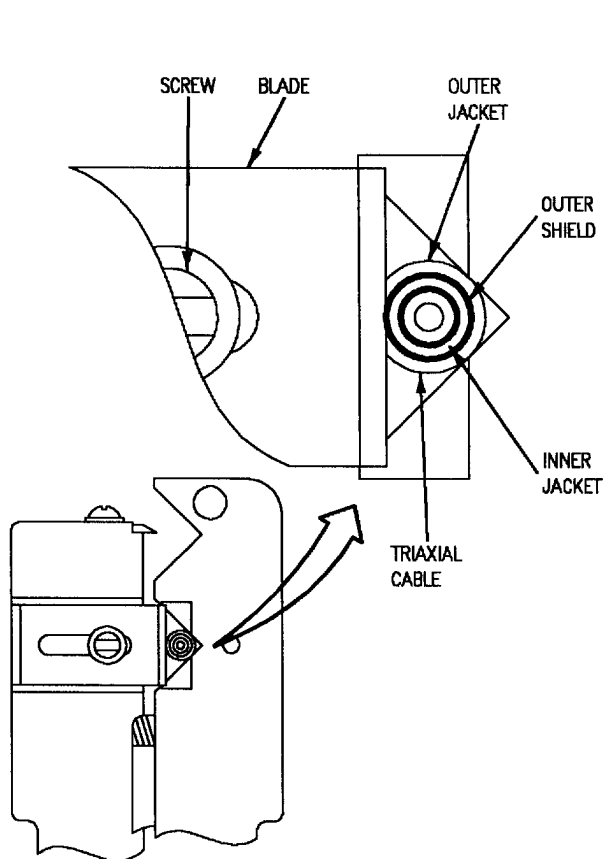
Figure 19. Distance Adjustment

18. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare triax before stripping triax to be used.

- a. Position triaxial cable in stripper until the end butts against the blade. See figure 20.
- b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



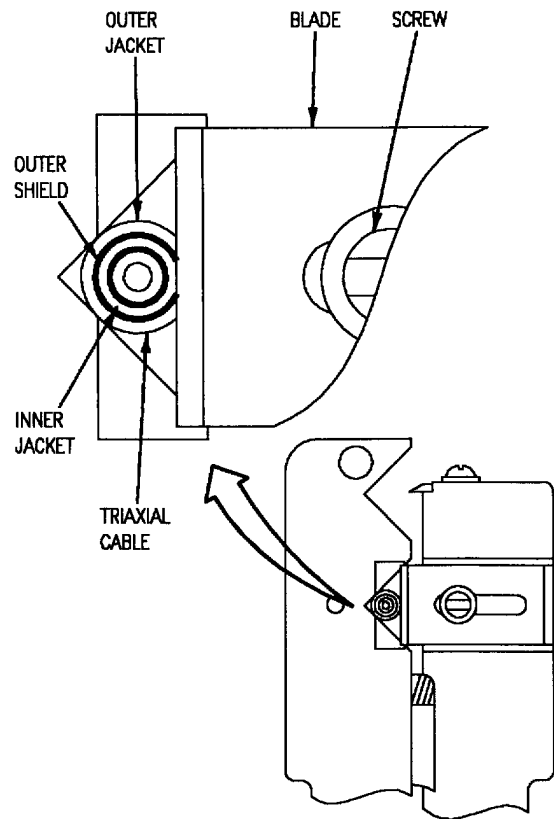
F/A-18-WRM-(568-1)01-CATI

Figure 20. Jacket Cut Adjustment

- c. Remove triaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 21.

- d. Adjust blade so it cuts through shield without damaging dielectric.

- e. If required, repeat steps 18a through 18d until blades cut through jacket and shield without damaging shield and dielectric.



F/A-18-WRM-(569-1)01-CATI

Figure 21. Shield Cut Adjustment

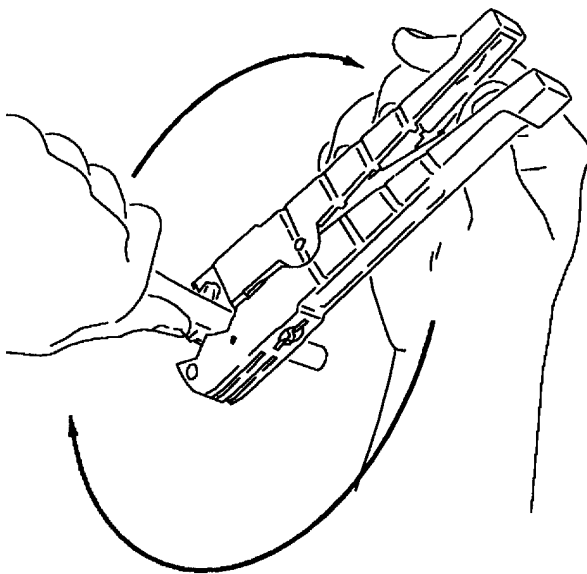
119. USE.

- a. Position stripper on cable so that blades face down. See figure 22.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

- b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.
- c. Remove stripper from cable.
- d. Remove stripped jacket and shield.



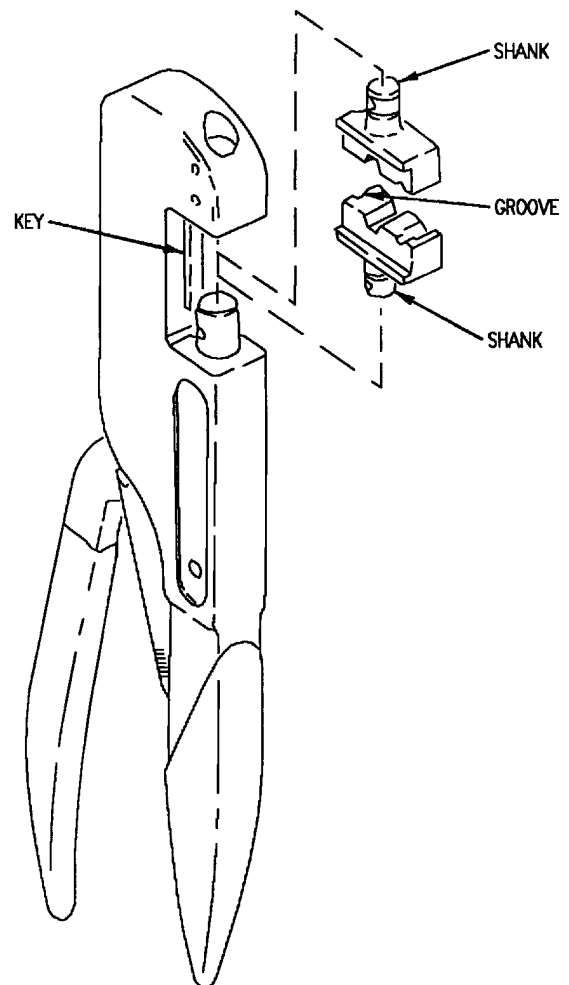
F/A-18-WRM-(409-1)01-SCAN

Figure 22. Operation

20. CRIMP TOOL M22520/5-01 ASSEMBLY AND USE.

21. DIE INSTALLATION.

- a. Align groove in die with key in crimping tool and push shank of die into hole.
- b. Close handle to make sure dies are correctly seated and locked in place. See figure 23.

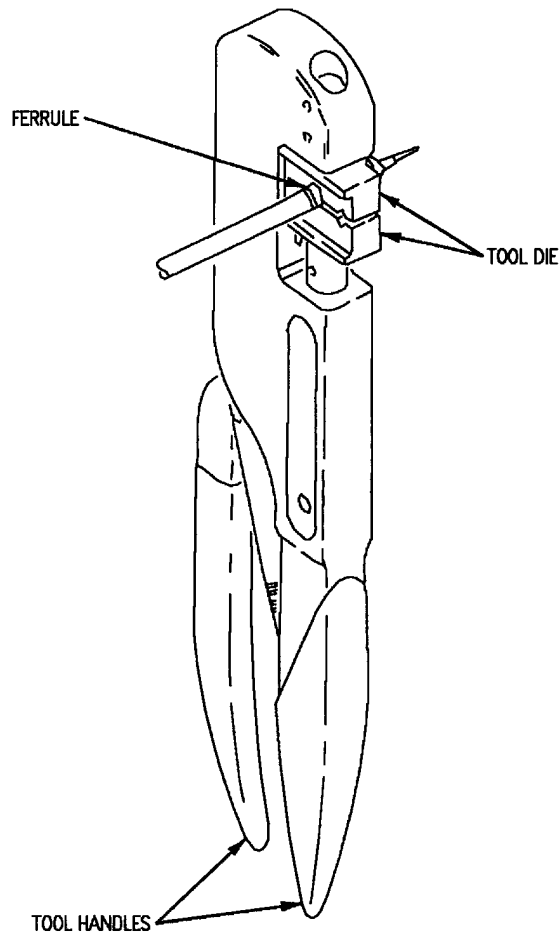


F/A-18-WRM-(410-2)01-SCAN

Figure 23. Die Installation

22. CRIMP PROCEDURE.

a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 24.



F/A-18-WRM-(410-1)01-CATI

Figure 24. Crimp Positioning

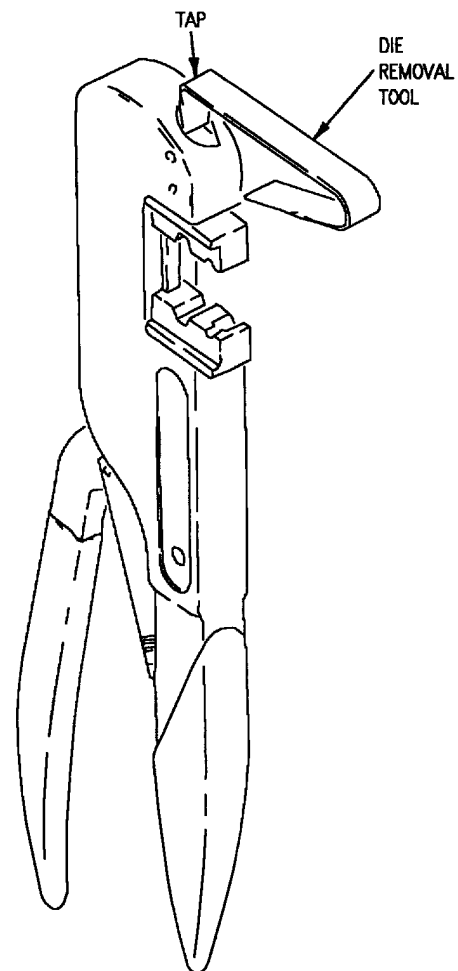
b. Squeeze tool handles until ratchet releases.

c. Open handles and remove ferrule assembly and inspect crimp.

23. DIE REMOVAL.**NOTE**

Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 25.

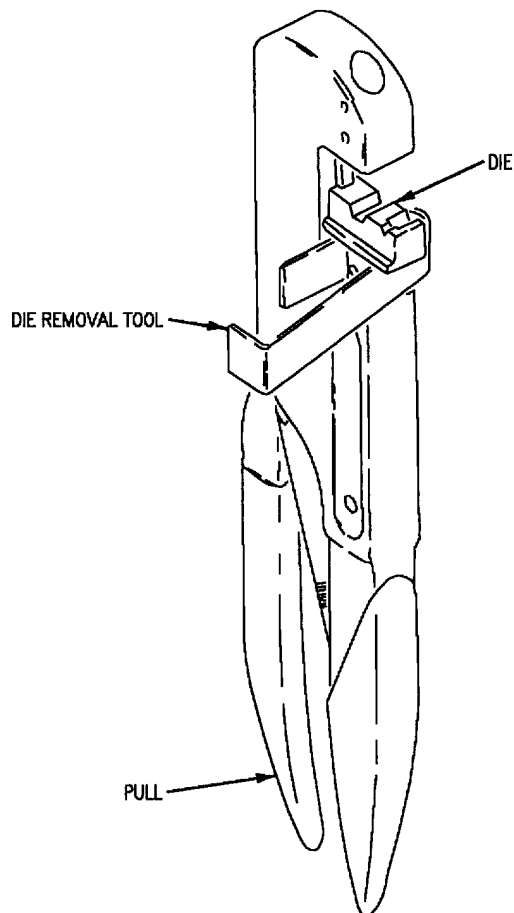


F/A-18-WRM-(410-3)01-SCAN

Figure 25. Upper Die Removal

b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 26.



F/A-18-WRM-(410-4)01-SCAN

Figure 26. Lower Die Removal

d. Pull handle open with snap action. The die will be released from the lock spring and can be removed by hand.

24. INSERTION OF TRIAXIAL CONTACT INTO CONNECTOR.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

WARNING

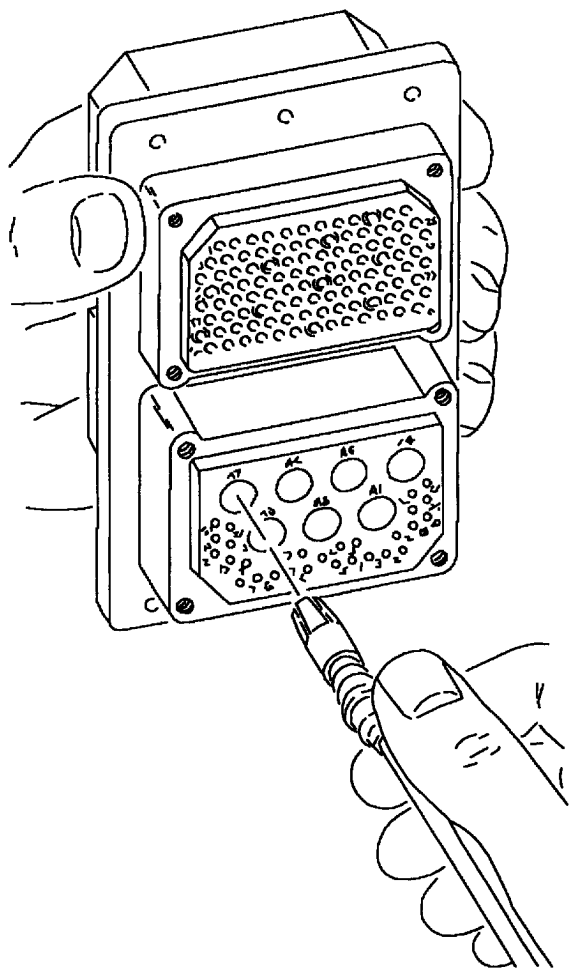
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

NOTE

The triaxial contact is to be inserted by hand.

b. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping contact.

c. At right angle to connector insert, align contact with cavity in connector and press contact firmly by hand to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 27.

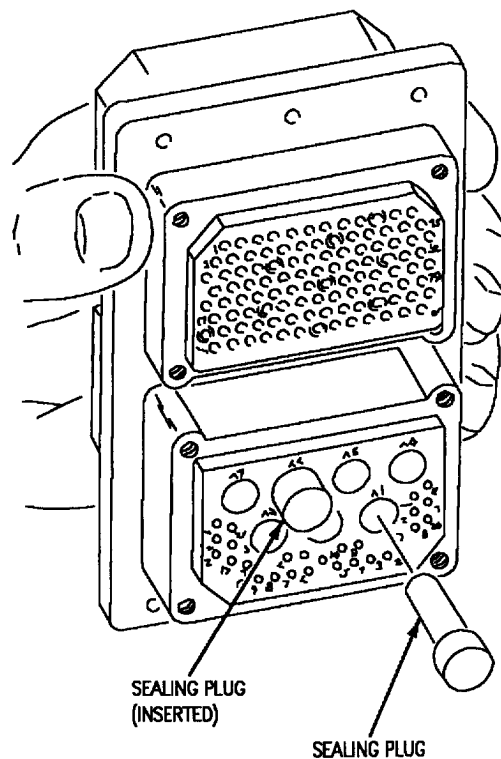


F/A-18-WRM-(725-9)02-SCAN

Figure 27. Inserting Triaxial Contact into Connector

d. Carefully pull back on wire to make sure contact is correctly seated.

e. Fill all unused contact cavities with sealing plug, small diameter first, until it bottoms against contact cavity. See figure 28.



F/A-18-WRM-(725-10)02-SCAN

Figure 28. Inserting Triaxial Sealing Plug(s) into Connector

25. WIRED TRIAXIAL CONTACT REMOVAL FROM CONNECTOR.

a. If backshell required disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 6 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

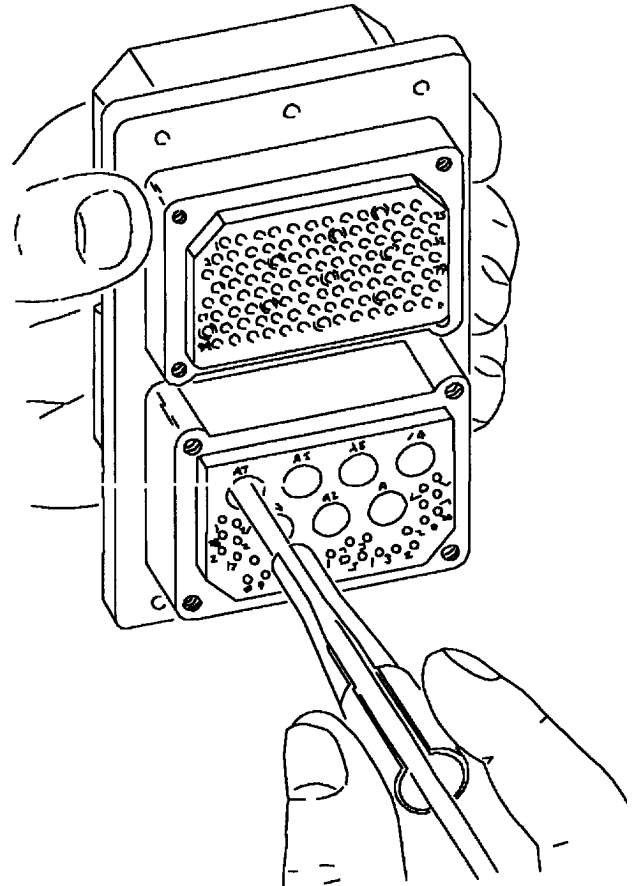
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

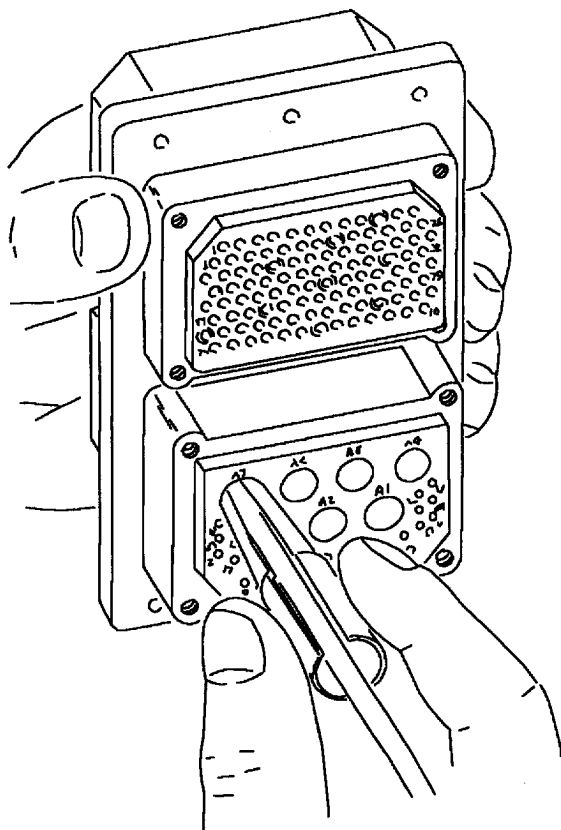
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 29.



F/A-18-WRM-(725-11)02-SCAN

Figure 29. Removal Tool on Triaxial Wire

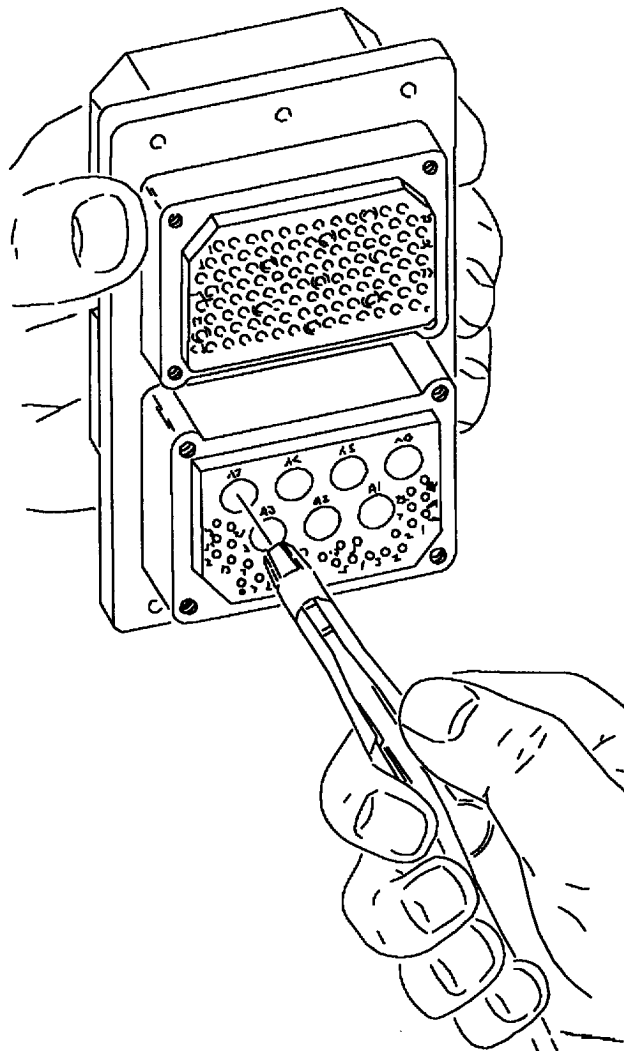
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 30.



F/A-18-WRM-(725-12)02-SCAN

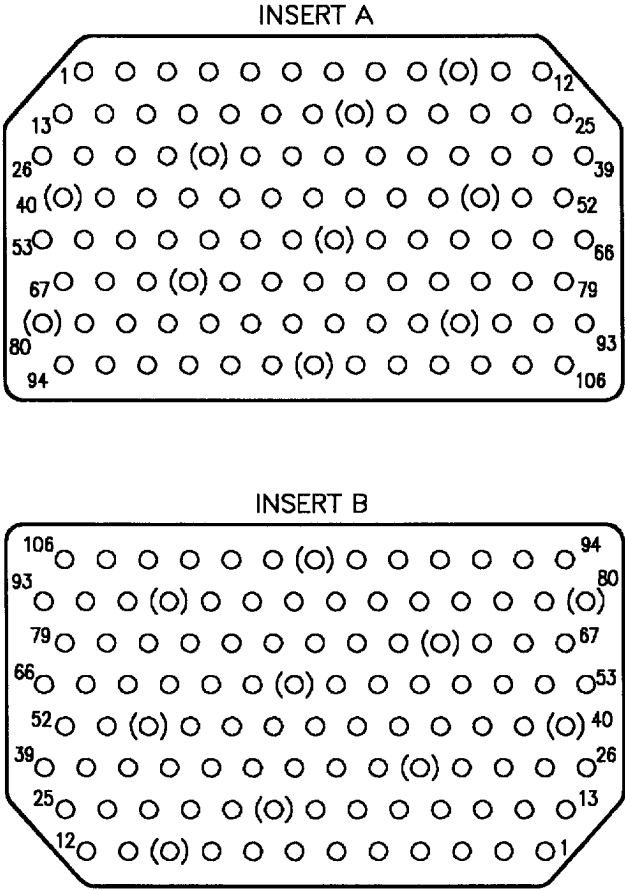
Figure 30. Unlocking Triaxial Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 31.



F/A-18-WRM-(725-13)02-SCAN

Figure 31. Removing Triaxial Contact from Connector



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(899-106A)01-CATI

Reference Designation to Backshell Data Index for DPX2NE41723-140-04 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
79P-J001A	G7057-21-NF	060 00
79P-J001B	G7057-21-NF	060 00

Table 1. Contact Data For Wired Contact Insert A

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	7/32	M39029/11-144	MS27488-22

Figure 32. DPX2NE41723-140-04 Connector (Sheet 1)

Table 2. Contact Data For Wired Contact Insert B

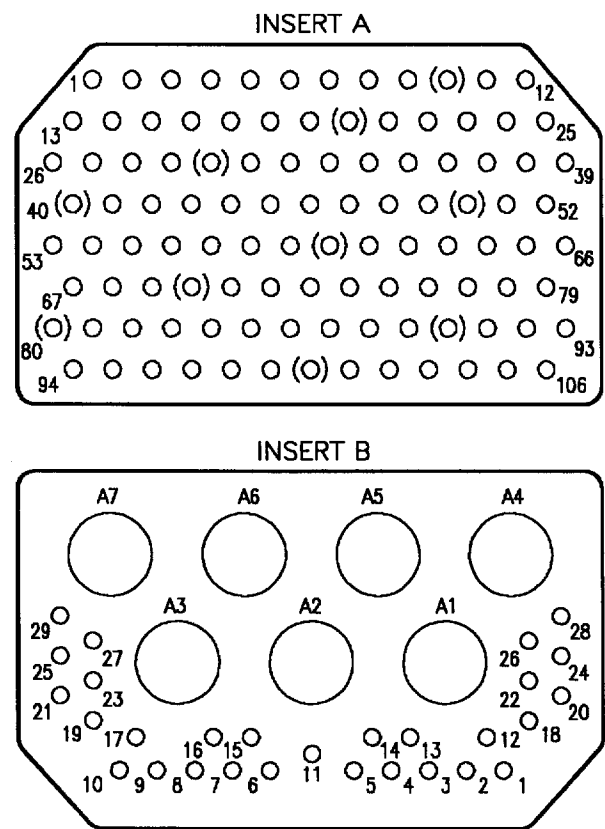
CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	7/32	M39029/11-144	MS27488-22

Table 3. Tool Data Insert A

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2 -23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Green)	DRK105-22-2

Table 4. Tool Data Insert B

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	MS3156-22
Removal Tool (White)	MS3156-22
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Green)	DRK105-22-2



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(899-31)02-CATI

Reference Designation to Backshell Data Index for DPX2NE41723-139-04 Connector








REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
80P-H001A Insert A	G7056-21-NF	060 00
80PH001B Insert B	J1305BR-8	080 00
80P-J002A Insert A	G7056-21-NF	060 00
80P-J002B Insert B	J1305BR-8	080 00
80P-J003A Insert A	G7056-21-NF	060 00
80P-J003B Insert B	G7056-21-NF	060 00
 80P-K019A Insert A	G7056-21-NF	060 00
 80P-K019A Insert B	J1305BR-8	080 00
 80P-L016A Insert A	G7057-21-NF	060 00
 80P-L016B Insert B	MS27663B20-1	070 00
 80P-L017A Insert A	G7056-21-NF	060 00
 80P-L017B Insert B	J1305BR-8	080 00
 F/A-18B		

Figure 33. DPX2NE41723-139-04 Connectors (Sheet 1)

Table 1. Contact Data For Wired Contacts Insert A

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 2. Contact Data For Wired Contacts Insert B

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 29 22GA	5/32	M39029/11-144	MS27488-22

Table 3. Contact Data For Triax Contacts Insert B

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A1 THRU A7	Refer to Triaxial Contact Assembly Procedure. See figure 34.	CA152100-1800	N/A

Table 4. Tool Data Insert A

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Green)	DRK105-22-2

Table 5. Tool Data Insert B Wired Contact

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Green)	DRK105-22-2

Table 6. Tool Data Insert B Triax Contact

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner (Center Contact)	K572
Crimp Tool Handle (Inner Ferrule)	M22520/5-01
Die Set (Inner Ferrule)	Y321
Crimp Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	M22520/5-45 (Closure A)
Insertion Tool	By Hand
Removal Tool	CET-C8
Removal Tool (Unwired)	N/A

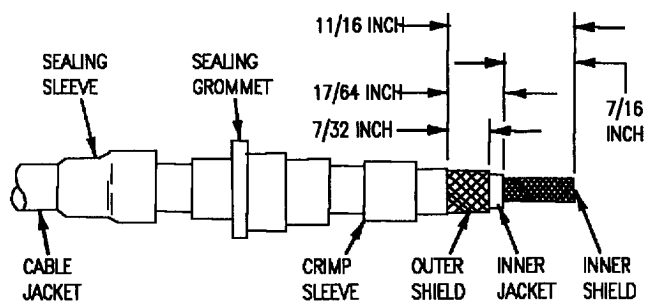
Figure 33. DPX2NE41723-139-04 Connectors (Sheet 3)

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

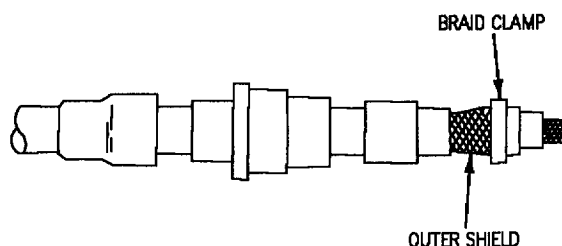
When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

- a. Slide sealing sleeve, sealing grommet and crimp sleeve over cable jacket.
- b. Trim cable to dimensions shown. Using cable strippers 45-163. Make sure cuts are square and even.



F/A-18-WRM-(1146-1)02-CATI

- c. Push braid clamp on over inner jacket and under outer shield until braid clamp bottoms.

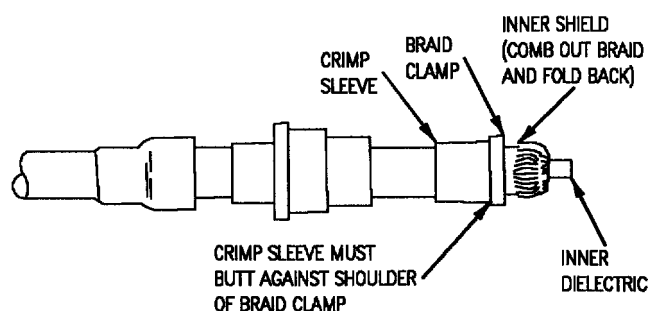


F/A-18-WRM-(1146-2)02-CATI

Figure 34. Triaxial Contact CA152100-1800 Assembly Procedure (Sheet 1)

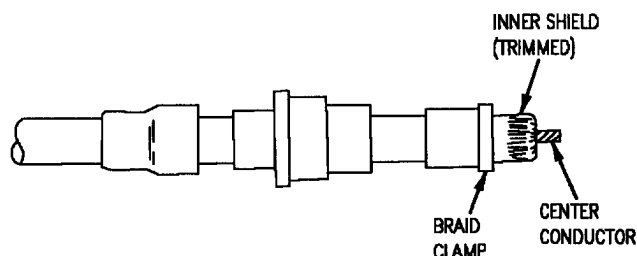
d. Slide crimp sleeve forward and butt against shoulder of braid clamp.

e. Comb out inner shield and fold back over braid clamp.



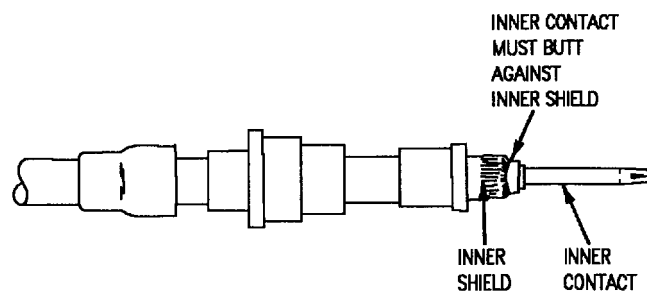
F/A-18-WRM-(1146-3)02-CAT1

f. Trim inner shield flush with insulator ring of braid clamp using diagonal cutters; trim inner dielectric flush with inner shield using 45-163 cable stripper.



F/A-18-WRM-(1146-4)02-CAT1

g. Slide inner contact over center conductor and butt against inner dielectric.

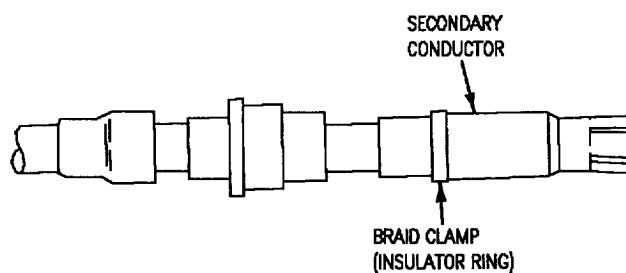


F/A-18-WRM-(1146-5)02-CAT1

Figure 34. Triaxial Contact CA152100-1800 Assembly Procedure (Sheet 2)

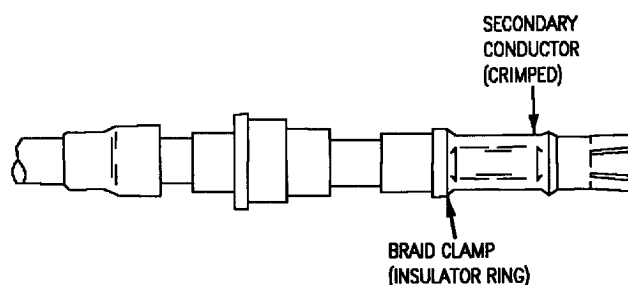
h. Crimp inner contact using tool M22520/2-01 handle with K572 positioner.

i. Slide secondary conductor over inner contact until it bottoms against insulator ring of braid clamp.



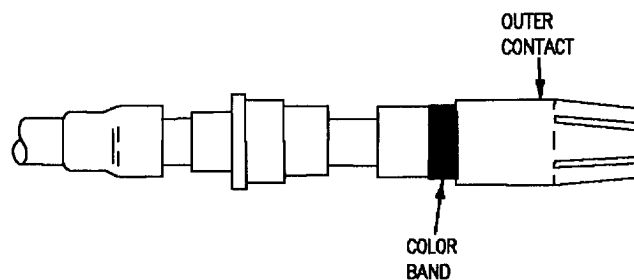
F/A-18-WRM-(1146-6)02-CATI

j. Crimp secondary conductor using tool M22520/5-01 handle with die set Y321.



F/A-18-WRM-(1146-7)02-CATI

k. Slide outer contact over secondary conductor until it bottoms.



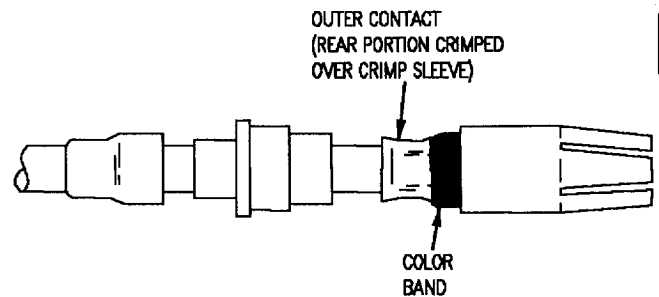
F/A-18-WRM-(1146-8)02-CATI

Figure 34. Triaxial Contact CA152100-1800 Assembly Procedure (Sheet 3)

NOTE

When crimping outer contact, do not crimp over color band.

1. Crimp outer contact using tool M22520/5-01 handle and M22520/5-45 Closure A.

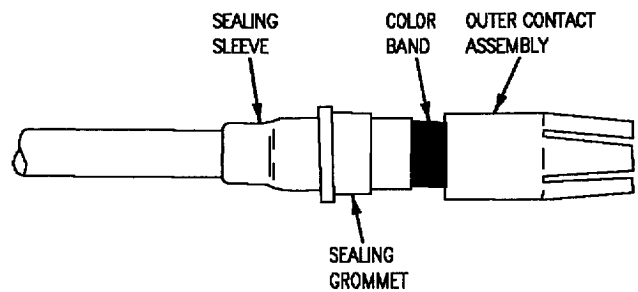


F/A-18-WRM-(1146-9)02-CAT1

- m. Slide sealing grommet and sealing sleeve forward over outer contact assembly.

- n. Lightly pull on cable to make sure contact is securely installed.

- o. Insert contact assembly into connector cavity by hand.



F/A-18-WRM-(1146-10)02-CAT1

Figure 34. Triaxial Contact CA152100-1800 Assembly Procedure (Sheet 4)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****1-207595, 1-207596, 207595, AND 207596 (MIL-C-81659)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Fabrication of Shielded Harness Terminated with Electro-Magnetic Interference (EMI) Backshells	WP060 00
Stripping Tools	WP010 00
Wire Type List	WP004 00

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





















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

Record of Applicable Technical Directives

None

Reference Designation to
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 52J-E009A	32
 52J-E009B	32
 52J-E010A	36
 52J-E010B	36
 52J-F002A	36
 52J-F002B	36
 52J-F004A	38
 52J-F004B	38
 52J-F005A	34
 52J-F005B	34
 52J-P009A	32
 52J-P009B	32
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 52J-P010B	36
 52J-R002A	36
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 52J-R004B	38
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 52P-E009B	33
52P-E010A	37
52P-E010B	37
52P-F002A	37
52P-F002B	37
52P-F004A	39
52P-F004B	39
52P-F005A	35
52P-F005B	35

Reference Designation to
Figure Number Index (Continued)

Reference Designation	Figure No.
 F/A-18B	
 F/A-18A 161702 AND UP	
F/A-18B 161704 AND UP	

1. DESCRIPTION.

2. 1-207595, 1-207596, 207595 and 207596 are dual inserts, environmental resistant, sealed rectangular connectors, with center jackscrew inserts.

3. Each connector part number is supported by an illustration which represents the contact arrangement, a reference designation list and tables containing tooling and parts data.






Unwired connector cavities shall have a sealing plug installed to prevent water intrusion.

Support Equipment Required

Part Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

LEGEND

 F/A-18A 161702 AND UP
 F/A-18A
 F/A-18B 161704 AND UP

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

4. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

5. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

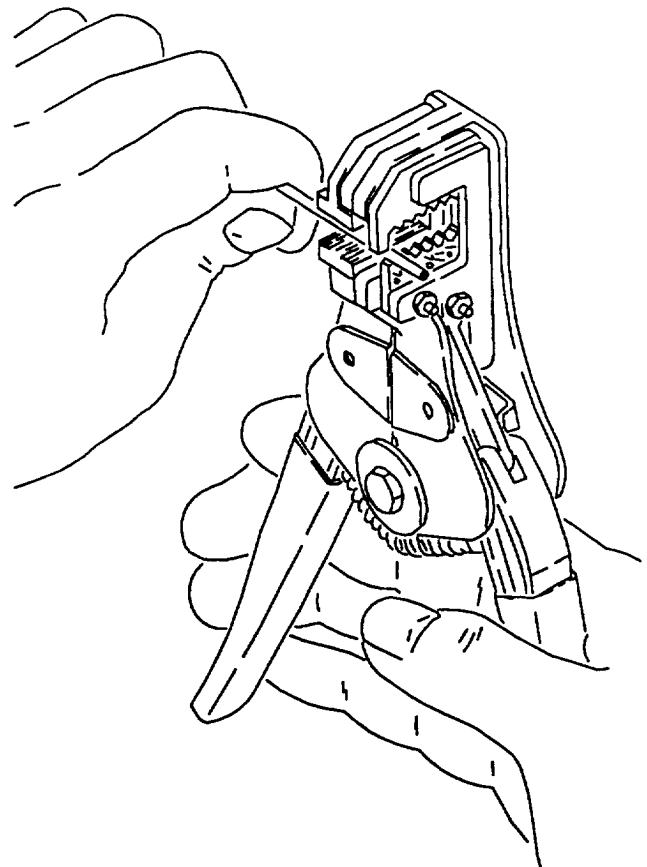
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1-F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

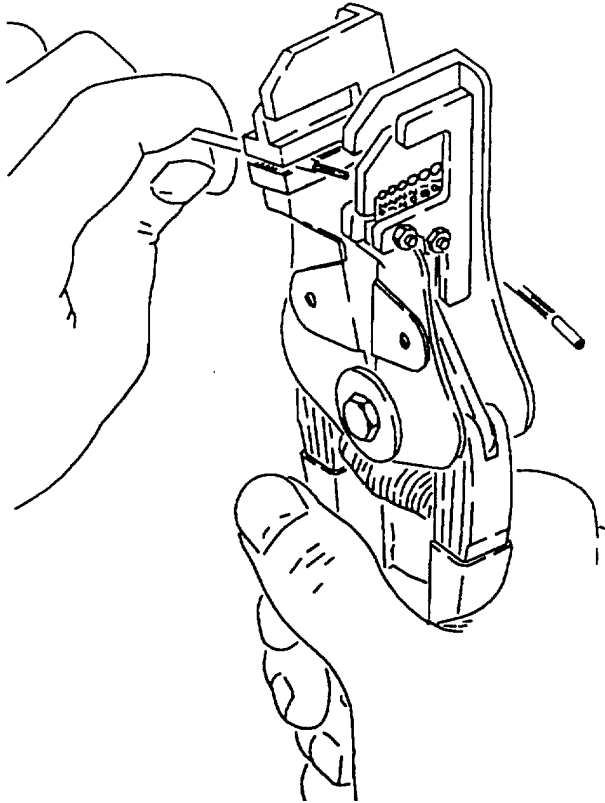
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.



F/A-18-WRM-(401-1)01-SCAN

Figure 1. Placing Wire in Slot of Stripping Tool

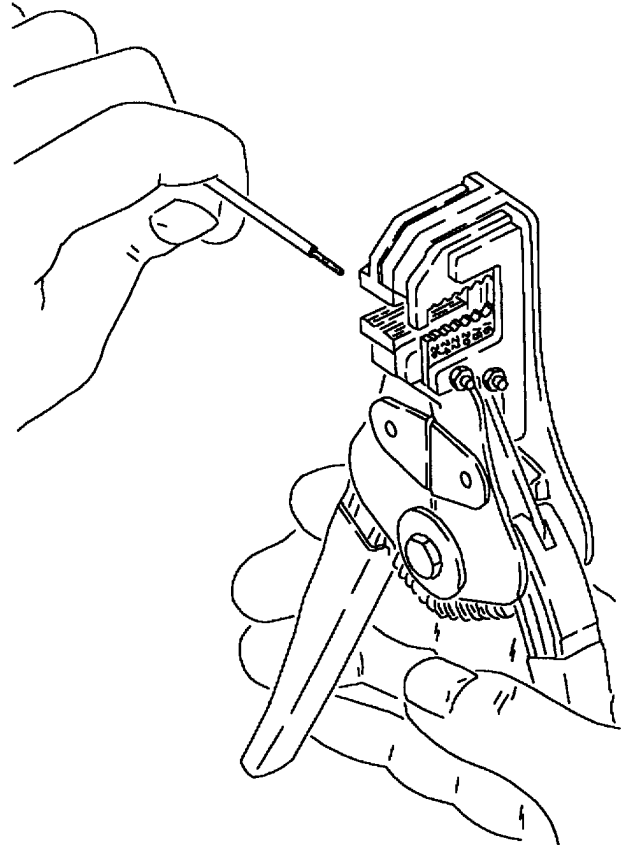
e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.

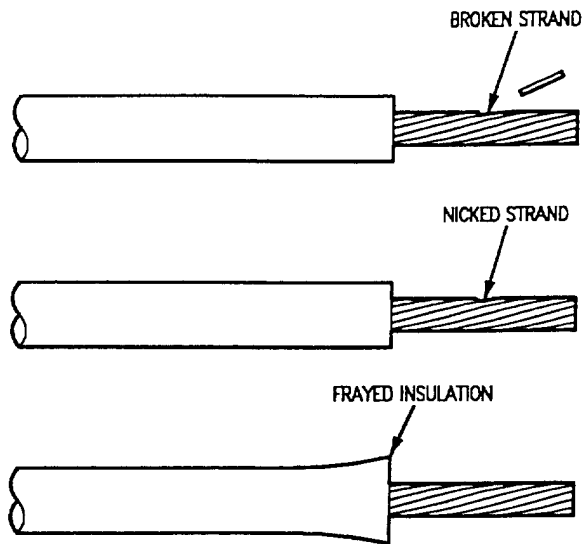


F/A-18-WRM-(403-1)01-SCAN

Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.



F/A-18-WRM-(404-1)01-CATI

Figure 4. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/1-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in Tool Data table in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

8. REMOVAL AND INSTALLATION OF TURRET HEAD.

NOTE

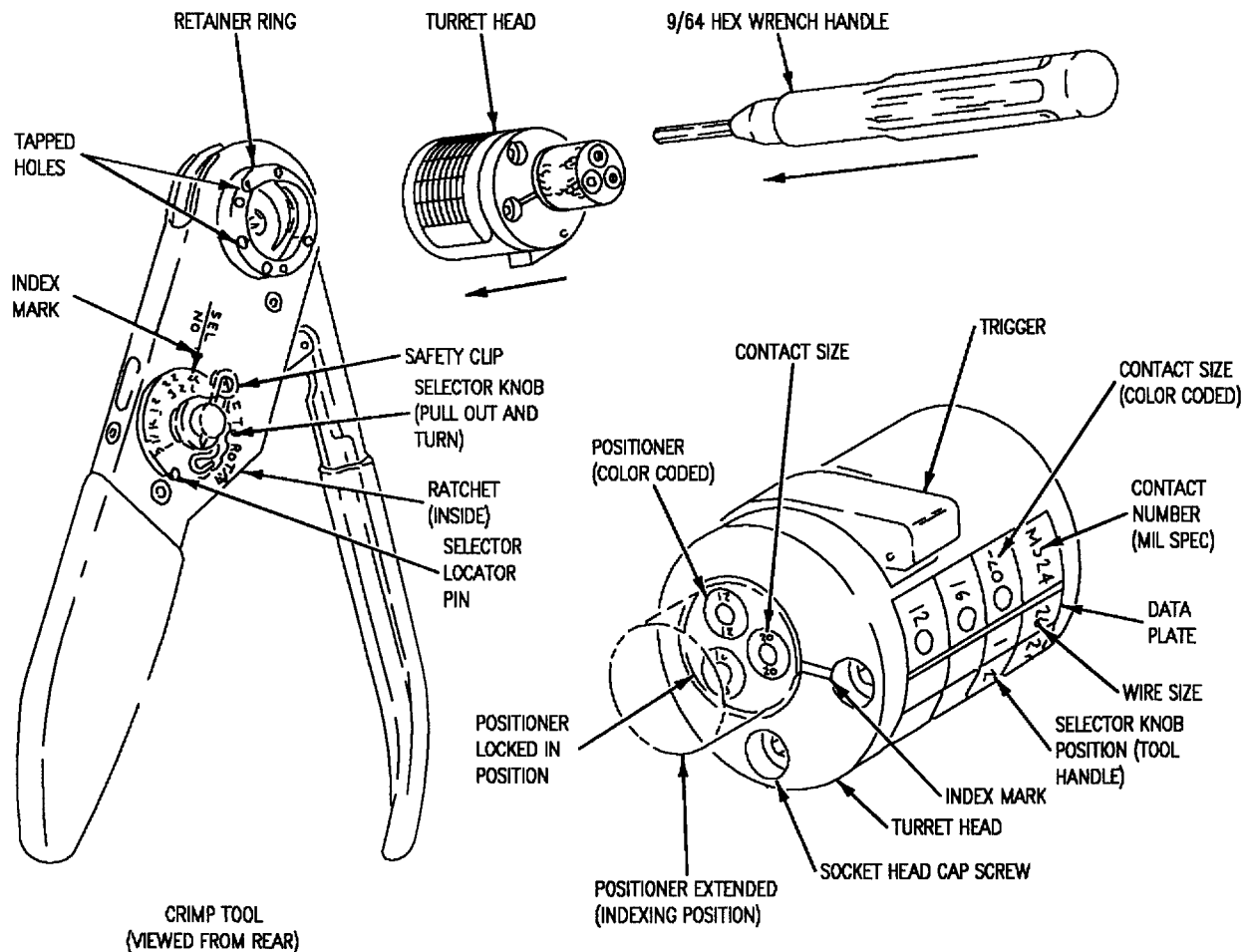
Crimp tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Press trigger of turret head releasing positioner to extended (indexing) position. See figure 5.

b. Seat turret head onto retaining ring on back of tool with socket head cap screws lined up with tapped holes.

c. Tighten socket head screws with a 9/64-inch hex wrench.

d. To remove turret head, loosen socket head screw until threads are disengaged from tapped holes and lift off crimp tool.



F/A-18-WRM-(405-1)01-CATI

Figure 5. M22520/1-01 Crimp Tool Handle and Turret Head

9. ADJUSTING TURRET HEAD BEFORE CRIMPING.

- a. Press trigger on turret head releasing positioner to extended (indexing) position.
- b. Select position desired from color coded data plate on side of turret head assembly.
- c. Rotate positioners until color coded positioner is lined up with index mark.
- d. Press positioner into turret head until it snaps into locked position.

10. SETTING SELECTOR KNOB USING TURRET HEAD.

- a. Refer to data plate on turret head assembly. The correct selector number is listed below the wire size and opposite the contact size.

- b. Remove the safety clip lock from selector knob.
- c. Raise selector knob and rotate to selector number found on data plate.
- d. Replace safety clip.

11. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

- a. Select crimp tool handle and positioner specified in Tool Data table in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

12. REMOVAL AND INSTALLATION OF POSITIONER.

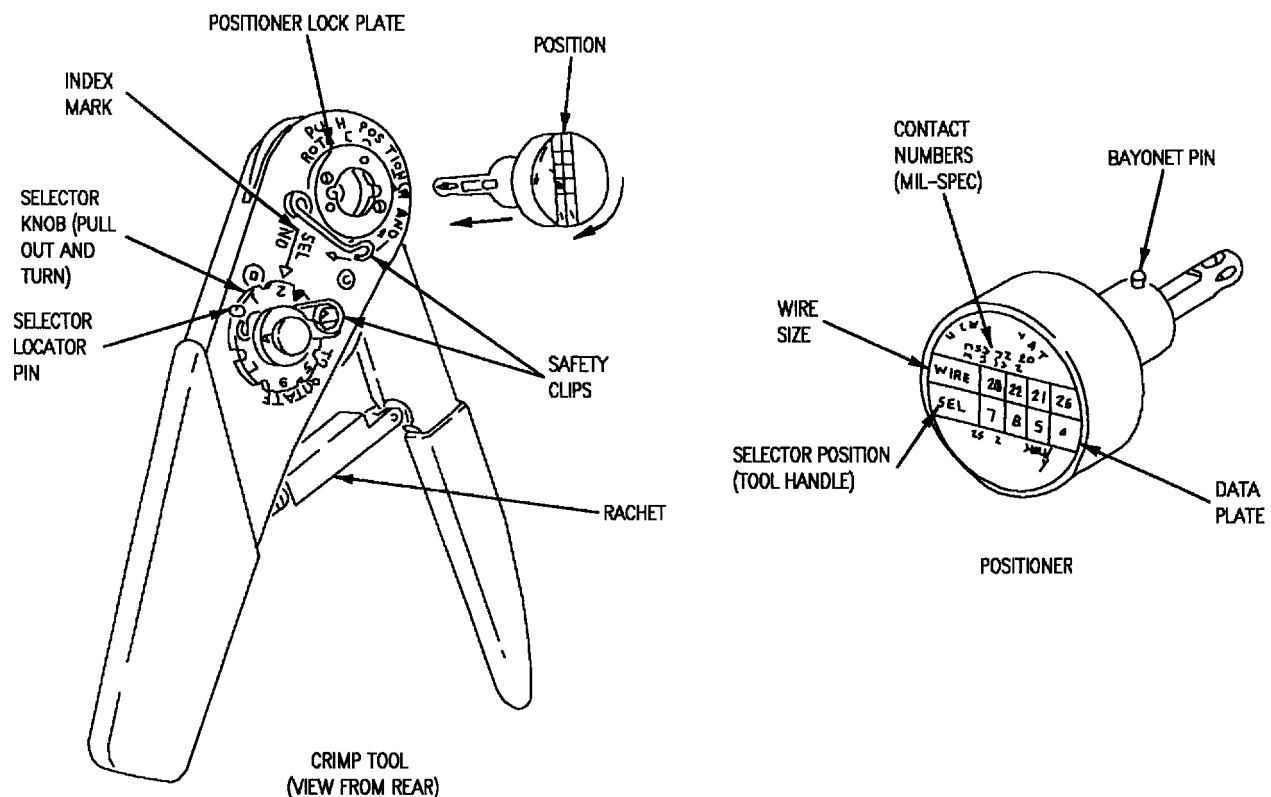
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 6.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



F/A-18-WRM-(405-2)01-CATI

Figure 6. M22520/2-01 Crimp Tool Handle and Positioner

13. SETTING SELECTOR KNOB.

a. Locate wire size on data plate of positioner and note corresponding selector number.

b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.

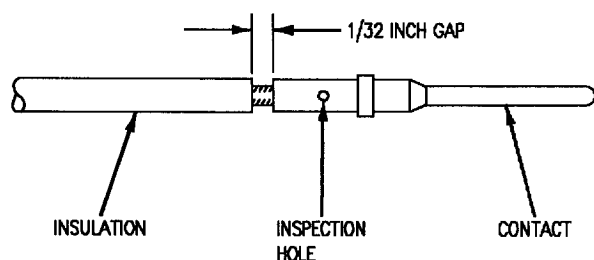
c. Install safety clip.

14. CONTACT CRIMPING.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

- a. Select correct contact specified in table for affected connector part number.
- b. Insert stripped wire into contact and check make sure strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 7.



F/A-18-WRM-(721-1)02-SCAN

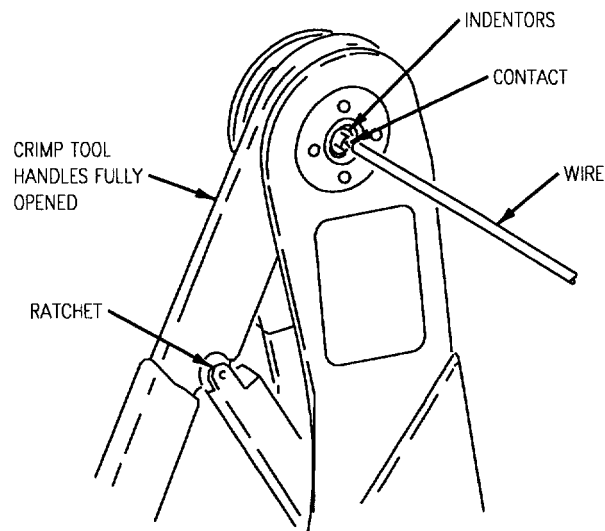
Figure 7. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 8, detail A.

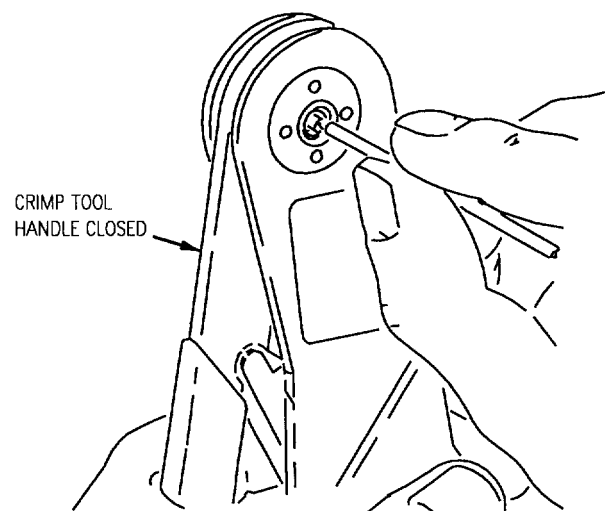
NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 8, detail B.



CRIMP TOOL
(VIEWED FROM FRONT)

DETAIL A**DETAIL B**

F/A-18-WRM-(407-1)01-CATI

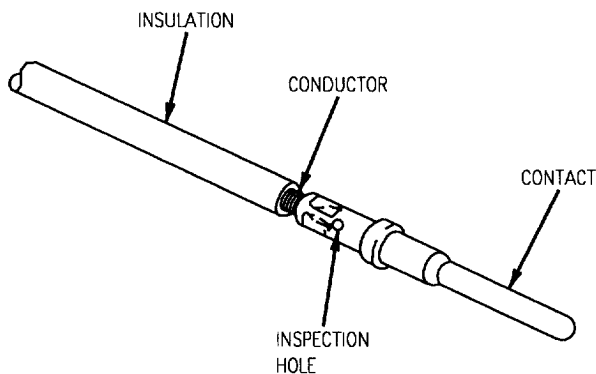
Figure 8. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole. See figure 9.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



F/A-18-WRM-(721-2)02-CATI

Figure 9. Inspection of Crimped Contact

15. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

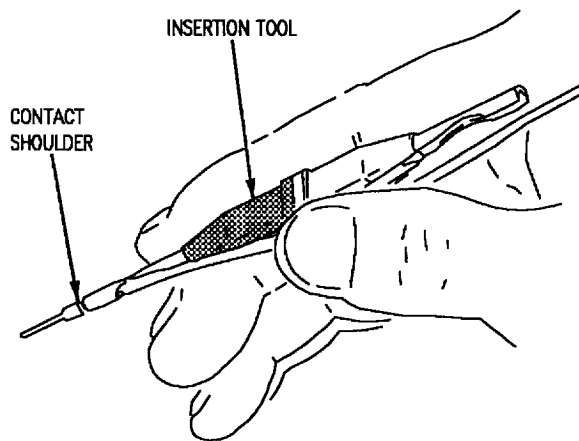
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 10.



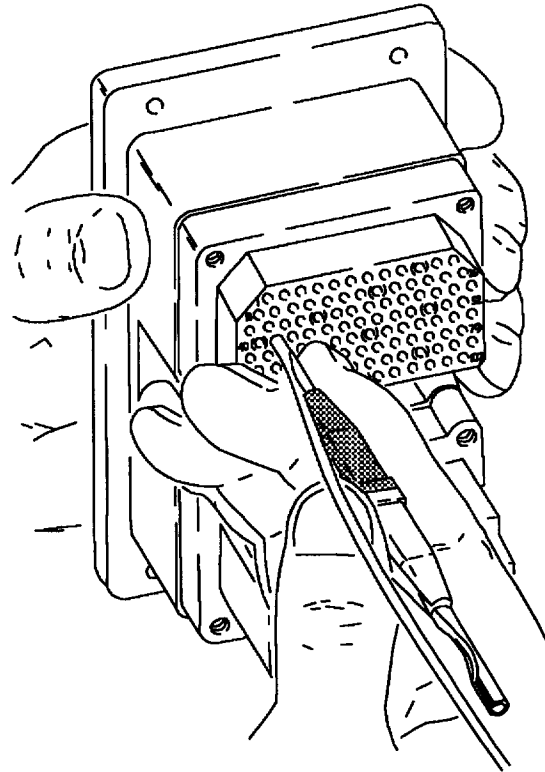
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



F/A-18-WRM-(721-3)02-SCAN

Figure 10. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 11.

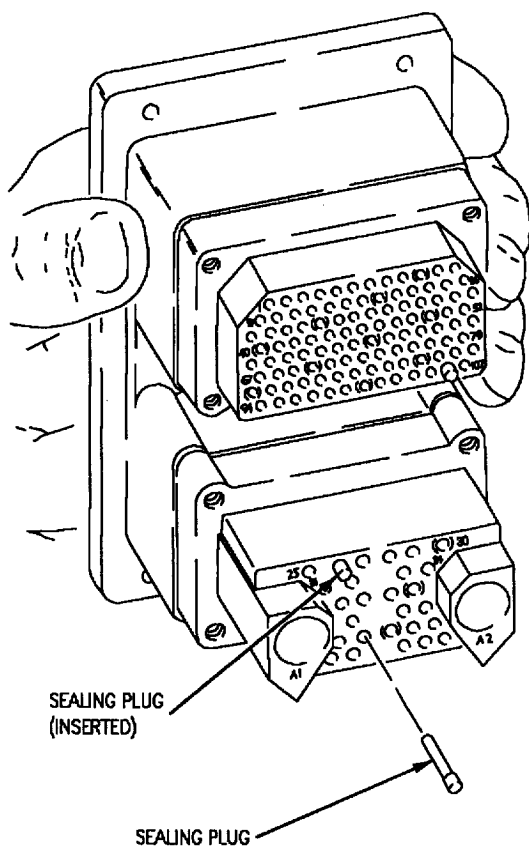


F/A-18-WRM-(650-13)02-SCAN

Figure 11. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 12.



F/A-18-WRM-(650-1)02-SCAN

Figure 12. Inserting Sealing Plug(s) into Connector

16. WIRED CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in Tool Data table in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

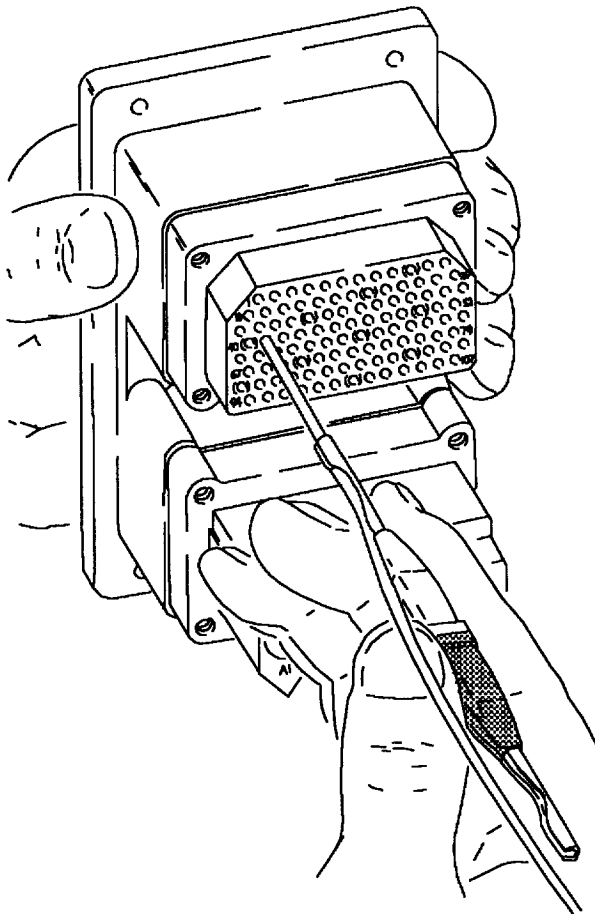
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

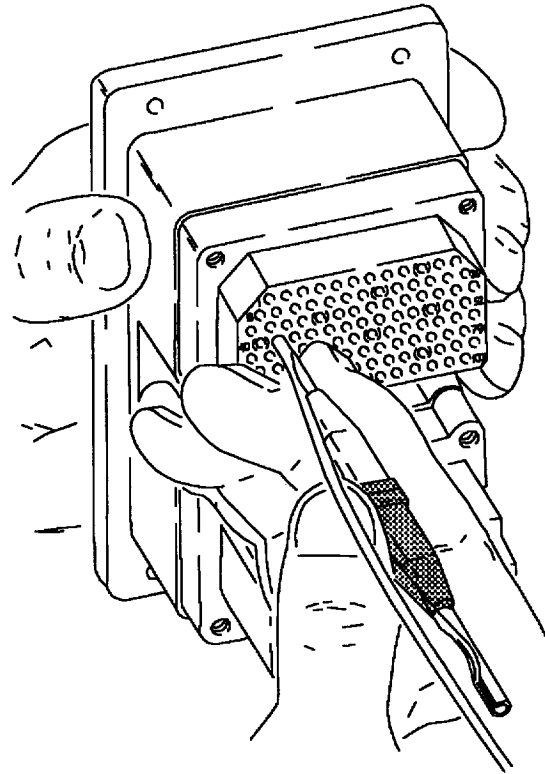
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 13.



F/A-18-WRM-(650-2)02-SCAN

Figure 13. Removal Tool on Wire

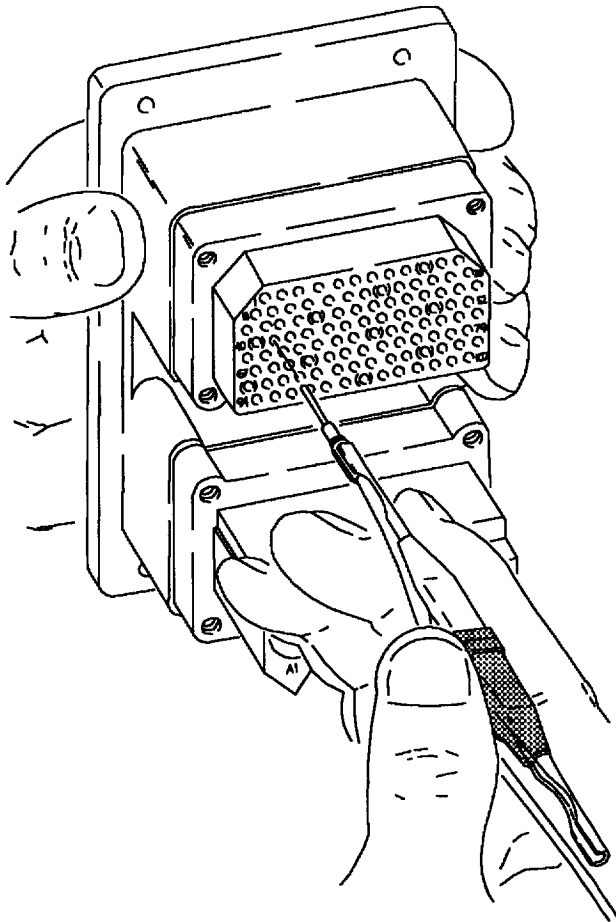
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 14.



F/A-18-WRM-(650-3)02-SCAN

Figure 14. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 15.



F/A-18-WRM-(650-4)02-SCAN

Figure 15. Removing Contact from Connector

17. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in Tool Data table in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

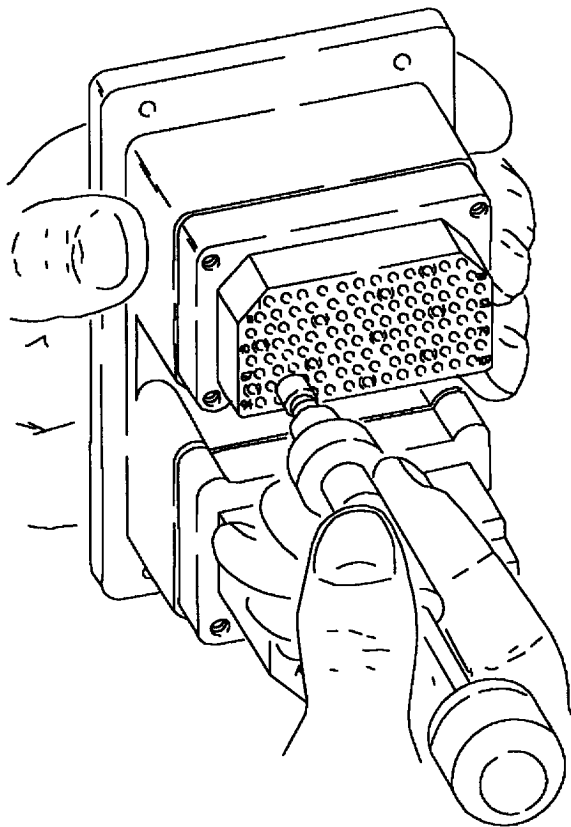
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

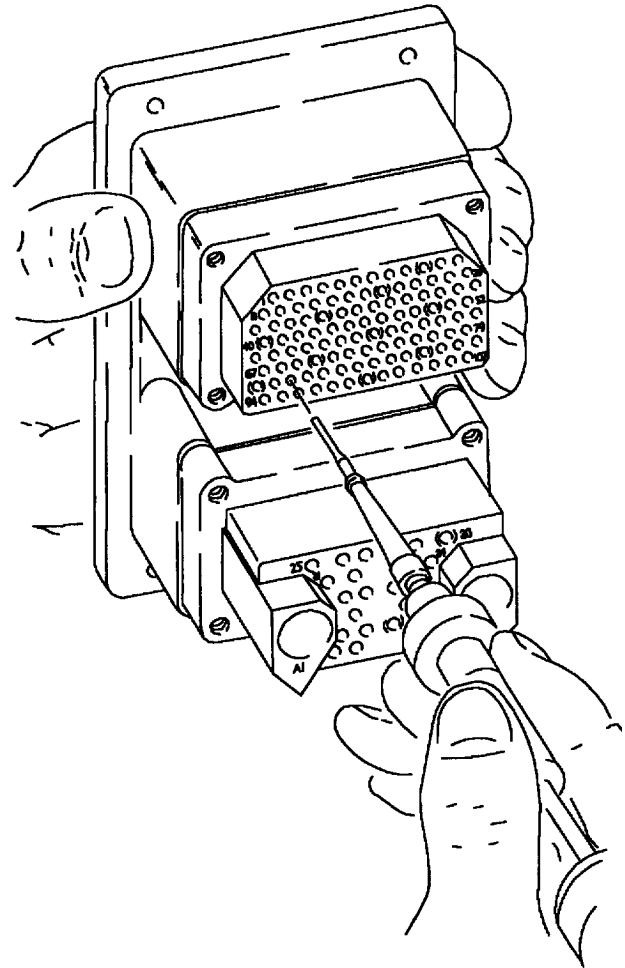
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 16.



F/A-18-WRM-(650-5)02-SCAN

Figure 16. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 17.



F/A-18-WRM-(650-6)02-SCAN

Figure 17. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

18. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

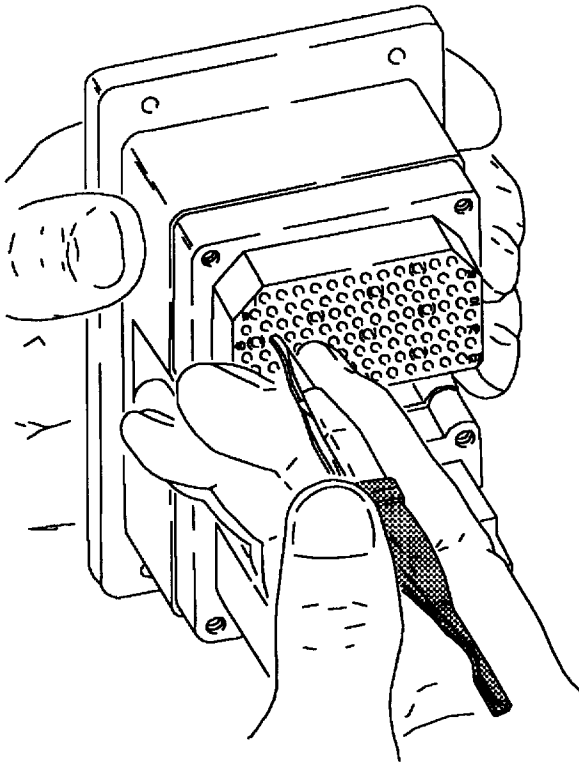
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.



Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool anytime during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 18.



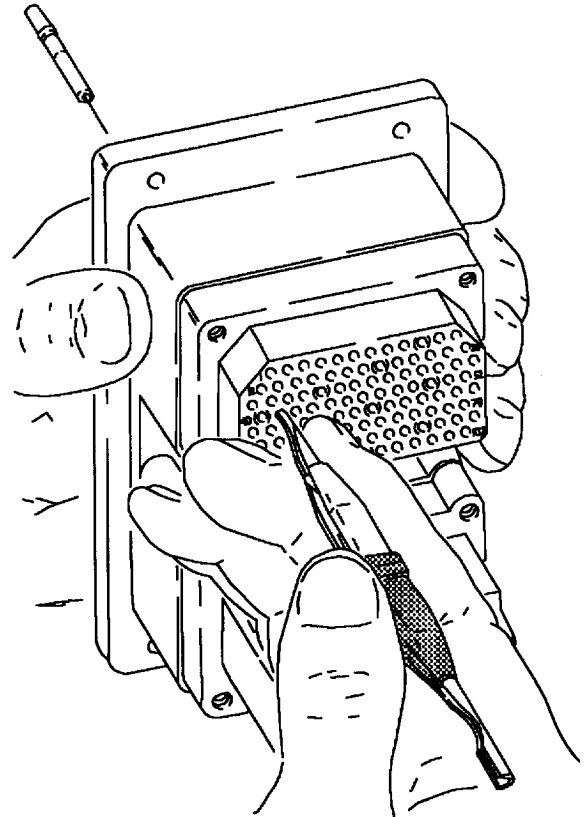
F/A-18-WRM-(650-7)02-SCAN

Figure 18. Unlocking Contact Retention Mechanism of Broken Wire Contact

h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.

i. Continue insert of removal tool until positive stop is felt.

j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 19.



F/A-18-WRM-(650-8)02-SCAN

Figure 19. Broken Wire Contact Removal

19. COAX REPAIR PROCEDURES.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

20. COAXIAL CABLE STRIPPERS 45-163 ADJUSTMENT AND USE.

NOTE

For detailed operation of coaxial wire strippers see WP010 00.

21. DISTANCE ADJUSTMENT.

a. Measure distance between blades. See figure 20.

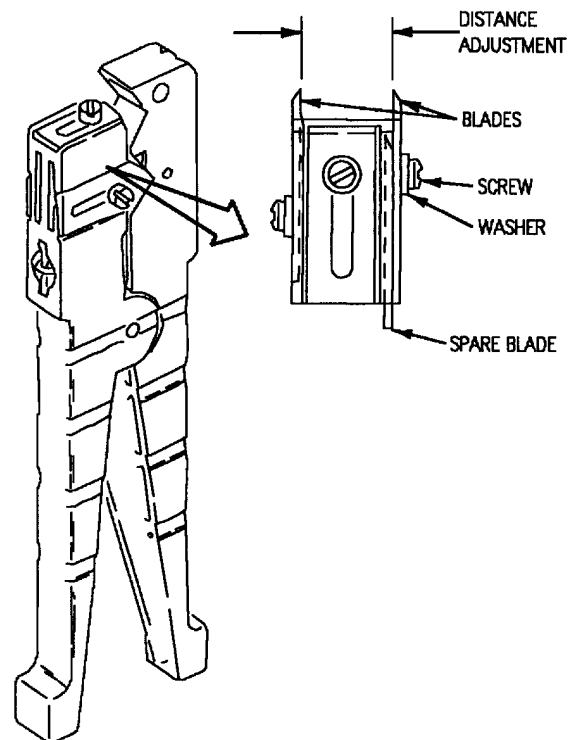
b. Remove screws and add or subtract spare blades as required to get correct distance.

NOTE

Adding or subtracting two spare blades will change distance between blades 3/64-inch.

c. Install screws and tighten handtight.

d. Adjust depth of cut.



F/A-18-WRM-(409-2)01-SCAN

Figure 20. Distance Adjustment

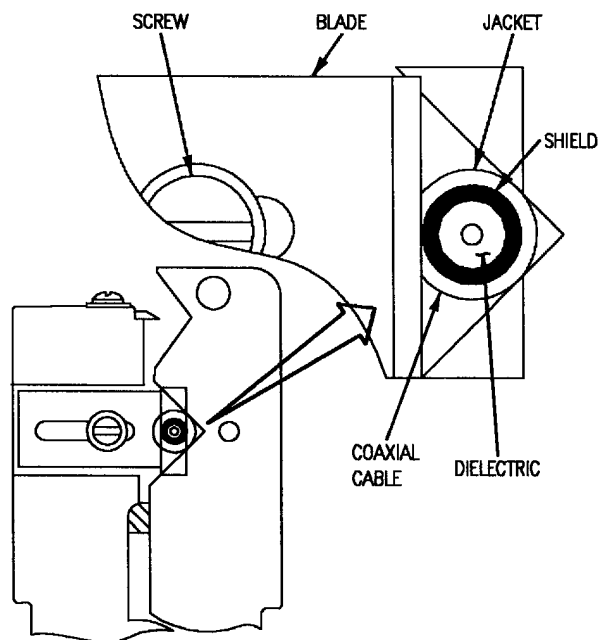
22. CUT ADJUSTMENT.

NOTE

A test strip should be done on spare coax before stripping coax to be used.

a. Position coaxial cable in stripper until the end butts against the blade. See figure 21.

b. Adjust blade until it cuts through jacket without nicking shield and tighten screw.



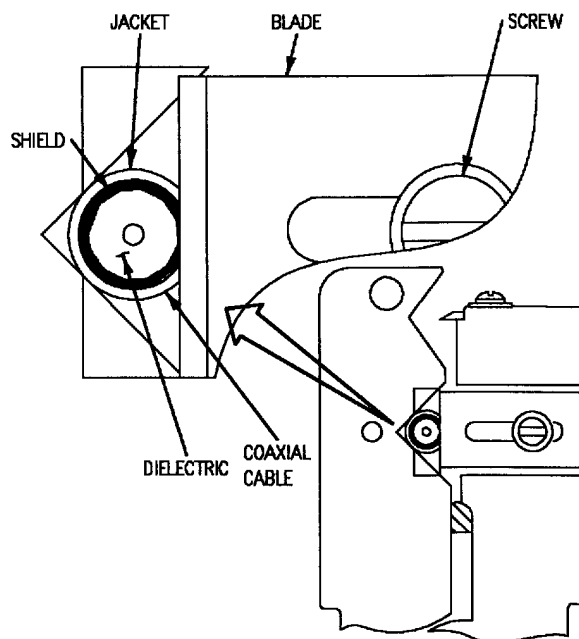
F/A-18-WRM-(409-3)01-CAT1

Figure 21. Jacket Cut Adjustment

c. Remove coaxial cable and insert into other side of stripper until the end butts against the remaining blade. See figure 22.

d. Adjust blade so it cuts through shield without damaging dielectric.

e. If required, repeat steps 22a through 22d until blades cut through jacket and shield without damaging shield and dielectric.



F/A-18-WRM-(409-4)01-CAT1

Figure 22. Shield Cut Adjustment

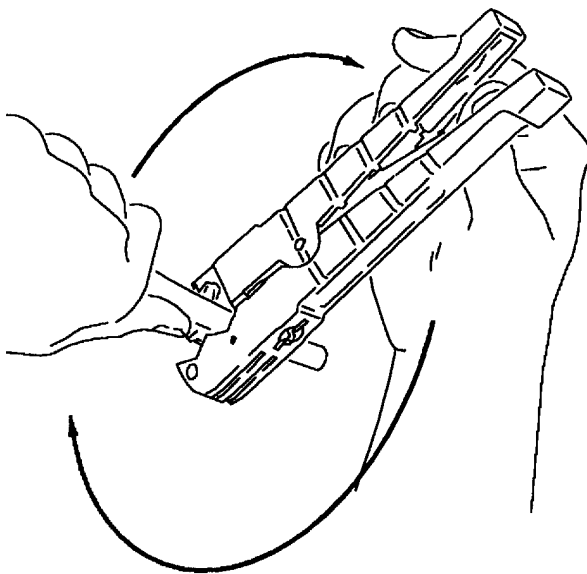
23. USE.

- a. Position stripper on cable so that blades face down. See figure 23.

NOTE

Rotating stripper in wrong direction may cause stripper to jump off.

- b. Rotate stripper on cable by pressing handle on blade side of stripper. Six to eight rotations will be required to finish cut.
- c. Remove stripper from cable.
- d. Remove stripped jacket and shield.



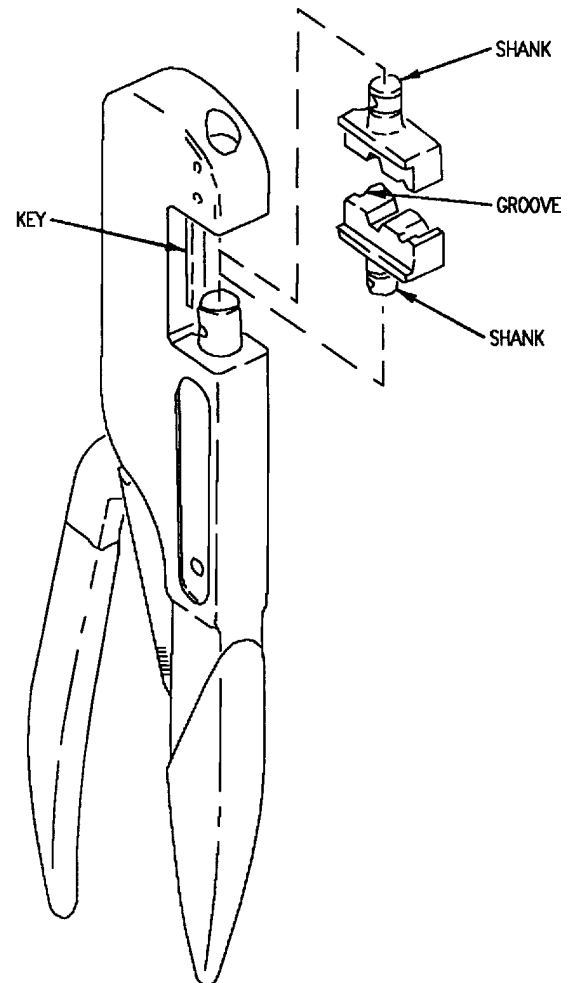
F/A-18-WRM-(409-1)01-SCAN

Figure 23. Operation

24. CRIMP TOOL M22520/5-01 ASSEMBLY AND USE.

25. DIE INSTALLATION.

- a. Align groove in die with key in crimping tool and push shank of die into hole.
- b. Close handle to make sure dies are correctly seated and locked in place. See figure 24.

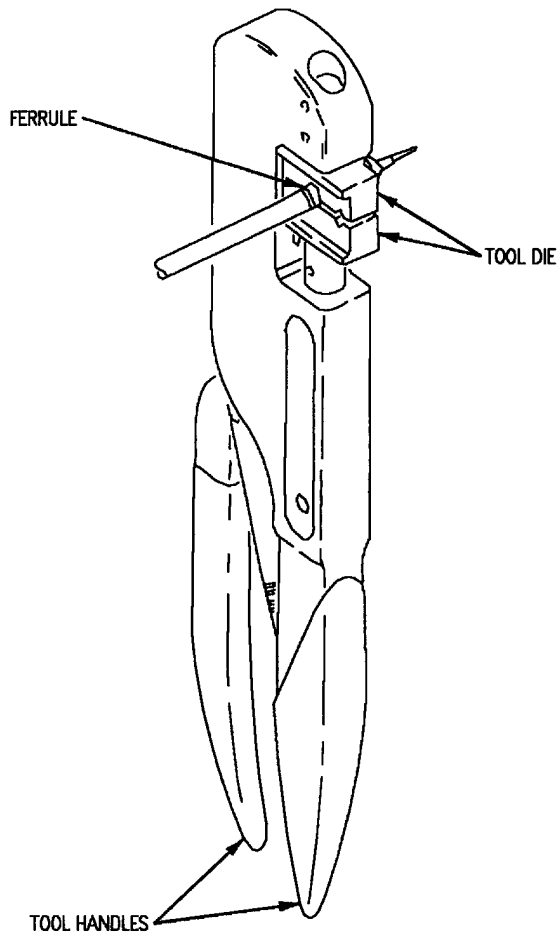


F/A-18-WRM-(410-2)01-SCAN

Figure 24. Die Installation

26. CRIMP PROCEDURE.

a. Slide outer ferrule over braided shield. Crimp outer ferrule. See figure 25.



F/A-18-WRM-(410-1)01-CATI

Figure 25. Crimp Positioning

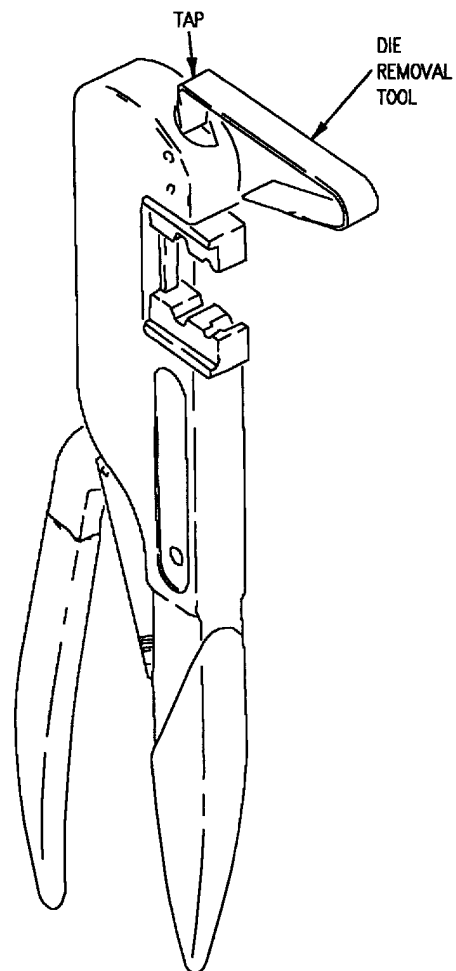
b. Squeeze tool handles until ratchet releases.

c. Open handles and remove ferrule assembly and examine for proper crimp.

27. DIE REMOVAL.**NOTE**

Die removal tool is furnished with crimping tool. If removal tool is not available, a rod 3/16-inches in diameter may be used.

a. With crimping tool handle open, place die removal tool against end of knock-out pad and tap gently. See figure 26.

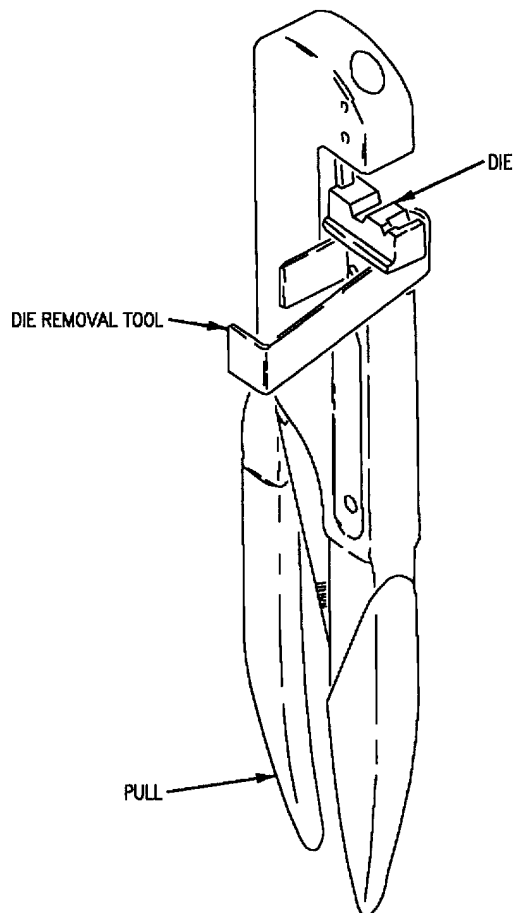


F/A-18-WRM-(410-3)01-SCAN

Figure 26. Upper Die Removal

b. The die will be released from the lock spring and ejected 1/16-inch. The die can now be removed by hand.

c. Close the crimping tool handle and slide the die removal tool between the die and tool body. See figure 27.



F/A-18-WRM-(410-4)01-SCAN

Figure 27. Lower Die Removal

d. Pull handle open with snap action. The die will be released from the lock spring and can be removed by hand.

28. INSERTION OF COAXIAL CONTACT INTO CONNECTOR.

a. If backshell requires disassembly, do the sub-steps below.

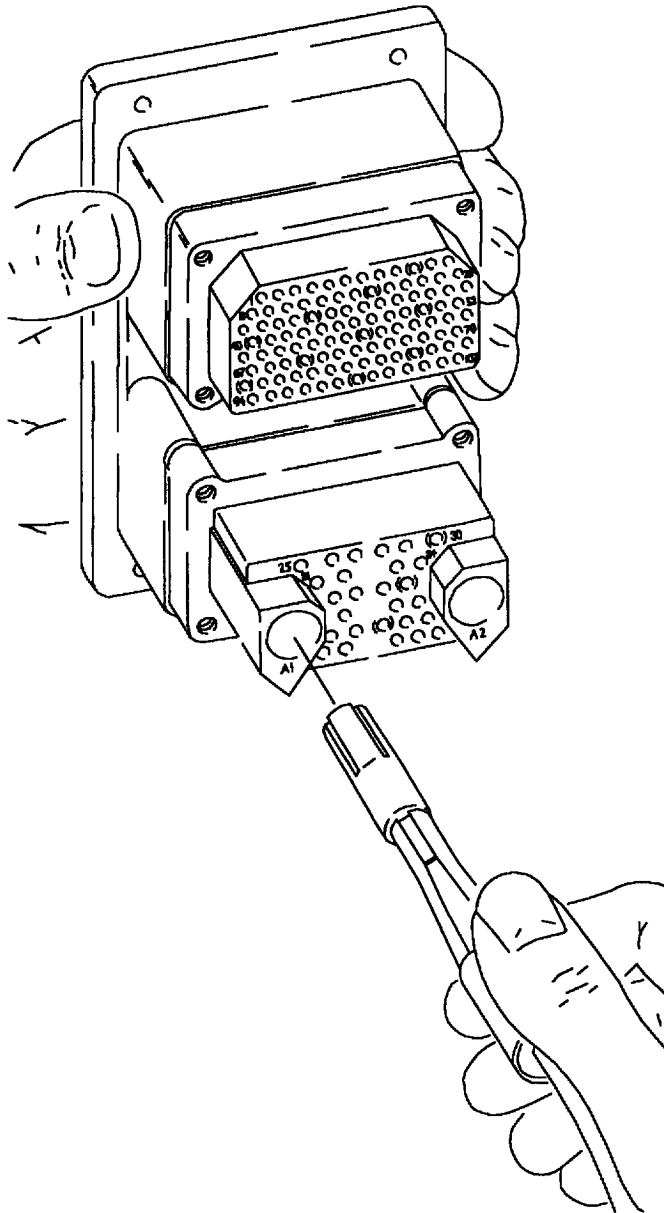
(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

NOTE

Contact is to be inserted by hand.

b. At right angle to connector insert, align contact with cavity in connector and press contact firmly to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 28.



F/A-18-WRM-(650-9)02-SCAN

Figure 28. Inserting Coaxial Contact into Connector

29. WIRED COAXIAL CONTACT REMOVAL FROM CONNECTOR.

a. If backshell requires disassembly, do the sub-steps below:

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in tool data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

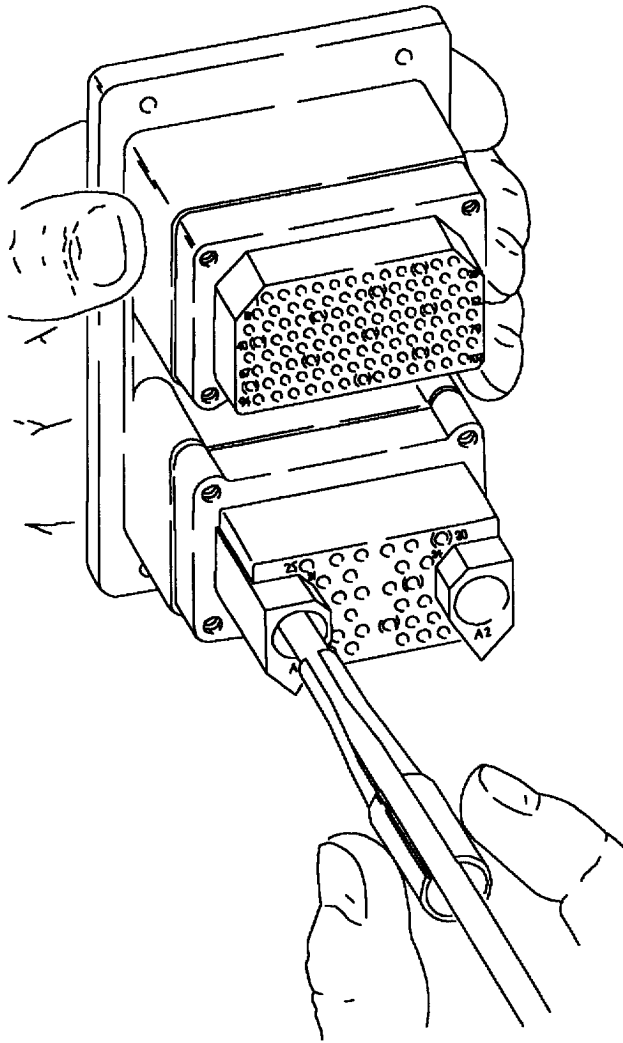
CAUTION

Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

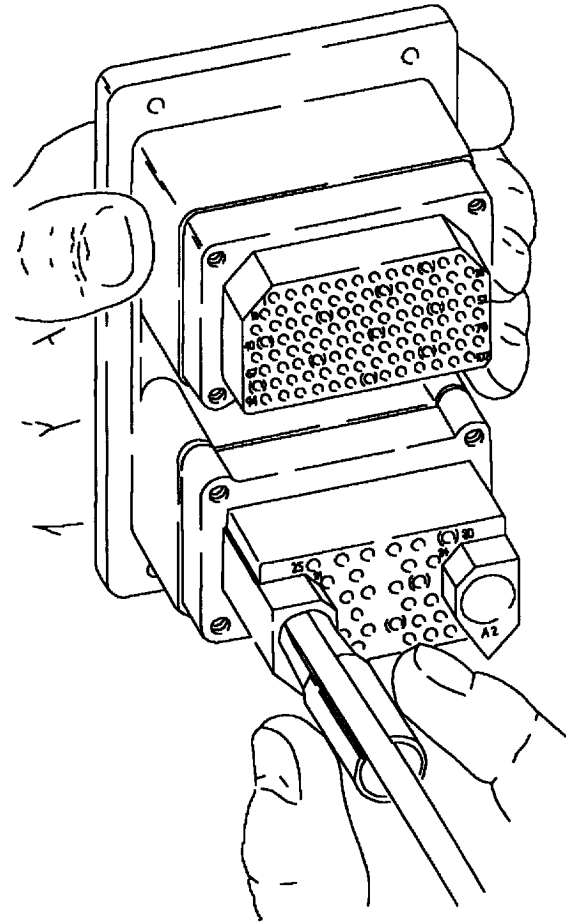
e. Slide removal tool along wire at right angly to connector insert and align with contact cavity. See figure 29.



F/A-18-WRM-(650-10)02-SCAN

Figure 29. Removal Tool on Coaxial Wire

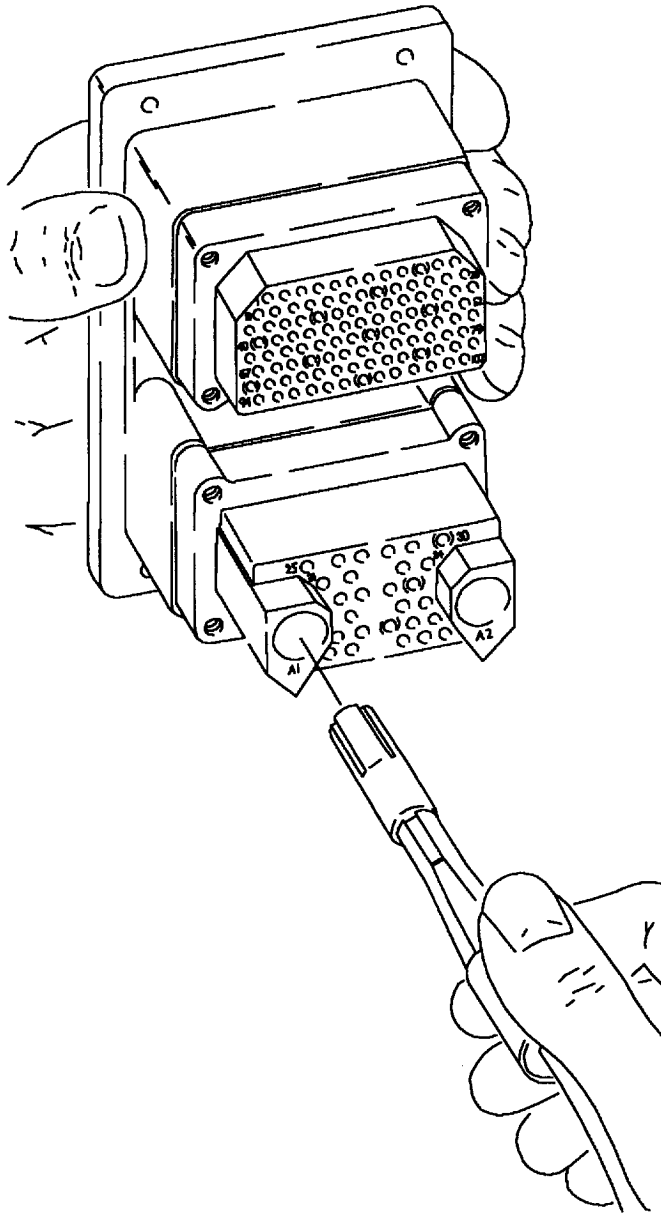
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 30.



F/A-18-WRM-(650-11)02-SCAN

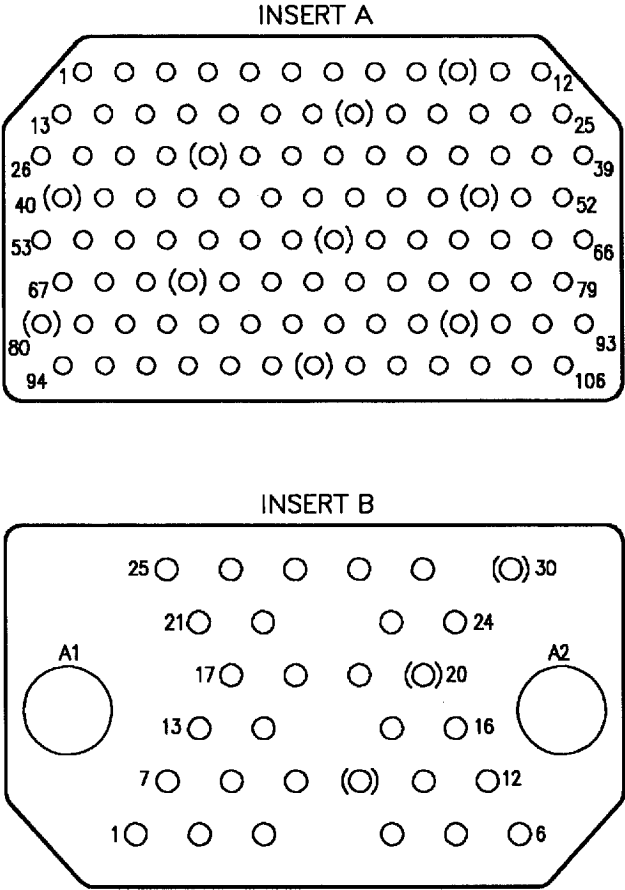
Figure 30. Unlocking Coaxial Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 31.



F/A-18-WRM-(385-12)02-SCAN

**Figure 31. Removing Coaxial
Contact from Connector**



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(899-30)01-CAT1

Reference Designation to Backshell Data Index for 1-207595-0 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 52J-E009A	J1311F	060 00
<input type="checkbox"/> 52J-E009B	J1311F	060 00
<input type="checkbox"/> F/A-18A 161702 AND UP		

Reference Designation to Backshell Data Index for 207595-9 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
<input type="checkbox"/> 52J-P009A	J1311F	060 00
<input type="checkbox"/> 52J-P009B	J1311F	060 00
<input type="checkbox"/> F/A-18B 161704 AND UP		

Figure 32. 1-207595-0 and 207595-9 Connectors (Sheet 1)

Table 1. Tool Data for Wired Contacts Insert A 1-207595-0

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 1-207595-0

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2

Table 3. Tool Data For Coax Contacts Insert B 1-207595-0

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner	K345
Crimp Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	Y586
Insertion Tool	N/A
Removal Tool	CET-C8
Removal Tool (Unwired)	N/A

Table 4. Contact Data For Wired Contacts Insert A 1-207595-0

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Figure 32. 1-207595-0 and 207595-9 Connectors (Sheet 2)

Table 5. Contact Data For Wired Contacts Insert B 1-207595-0

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 32	5/32	M39029/12-149	MS27488-20

Table 6. Contact Data For Coax Contacts Insert B 1-207595-0

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A1 AND A2	See Figure 40	225791-8	205402-3

Table 7. Tool Data For Wired Contacts Insert A 207595-9

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 8. Tool Data For Wired Contacts Insert B 207595-9

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2

Figure 32. 1-207595-0 and 207595-9 Connectors (Sheet 3)

Table 9. Tool Data For Coax Contacts Insert B 207595-9

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner	K345
Crimp Tool Handle (Outer Ferrule)	MS22520/5-01
Die Set (Outer Ferrule)	Y586
Insertion Tool	N/A
Removal Tool	CET-C8
Removal Tool (Unwired)	N/A

Table 10. Contact Data For Wired Contacts Insert A 207595-9

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488 22

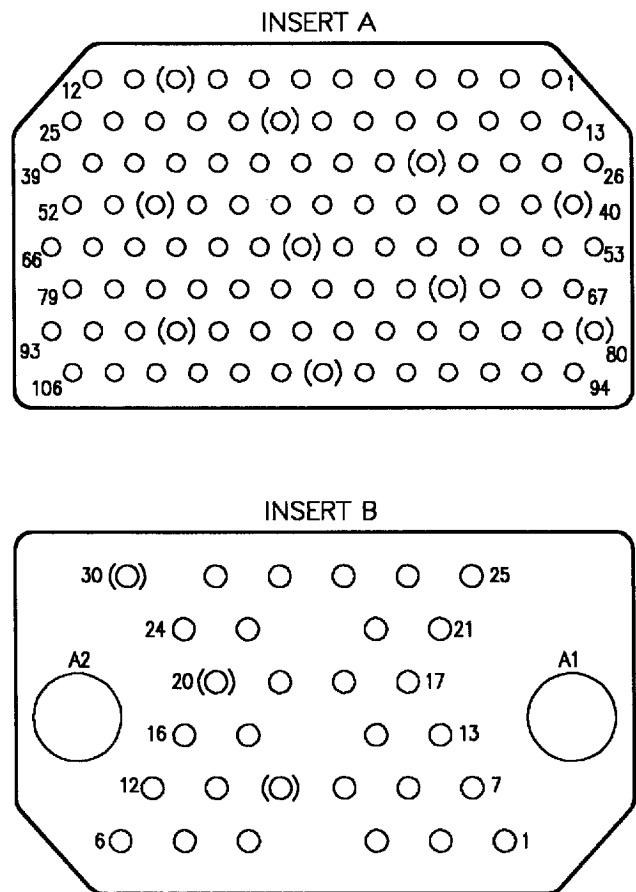
Table 11. Contact Data For Wired Contacts Insert B 207595-9

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 30	5/32	M39029/11-145	MS27488-20

Table 12. Contact Data For Coax Contacts Insert B 207595-9

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A1 THRU A2	See Figure 40	225790-4	205402-3

Figure 32. 1-207595-0 and 207595-9 Connectors (Sheet 4)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(999-30)01-CAT1

Reference Designation to Backshell Data Index for 1-207596-0 Connectors




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-E009A	J1311F	060 00
 52P-E009B	J1311F	060 00
 F/A-18A 161702 THRU 163175		

Figure 33. 1-207596-0 and 207596-9 Connectors (Sheet 1)

Reference Designation to Backshell Data Index for 207596-9 Connectors



REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-E009A	J1311F	060 00
 F/A-18B 161704 THRU 163123		

Table 1. Tool Data For Wired Contacts Insert A 1-207596-0

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 1-207596-0

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2

Table 3. Tool Data For Coax Contacts Insert B 1-207596-0

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner	K345
Crimp Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	Y586
Insertion Tool	N/A
Removal Tool	CET-C8
Removal Tool (Unwired)	N/A

Figure 33. 1-207596-0 and 207596-9 Connectors (Sheet 2)

Table 4. Contact Data For Wired Contacts Insert A 1-207596-0

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 5. Contact Data For Wired Contacts Insert B 1-207596-0

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 30	5/32	M39029/12-149	MS27488-20

Table 6. Contact Data For Coax Contacts Insert B 1-207596-0

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A1 and A2	See figure 40	225790-4	205402-3

Table 7. Tool Data For Wired Contacts Insert A 207596-9

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Figure 33. 1-207596-0 and 207596-9 Connectors (Sheet 3)

Table 8. Tool Data For Wired Contacts Insert B 207596-9

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2

Table 9. Tool Data For Coax Contacts Insert B 207596-9

ITEM	TOOL NUMBER
Crimp Tool Handle (Center Contact)	M22520/2-01
Positioner	K345
Crimp Tool Handle (Outer Ferrule)	M22520/5-01
Die Set (Outer Ferrule)	Y586
Insertion Tool	N/A
Removal Tool	CET-C8
Removal Tool (Unwired)	N/A

Table 10. Contact Data For Wired Contacts Insert A 207596-9

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

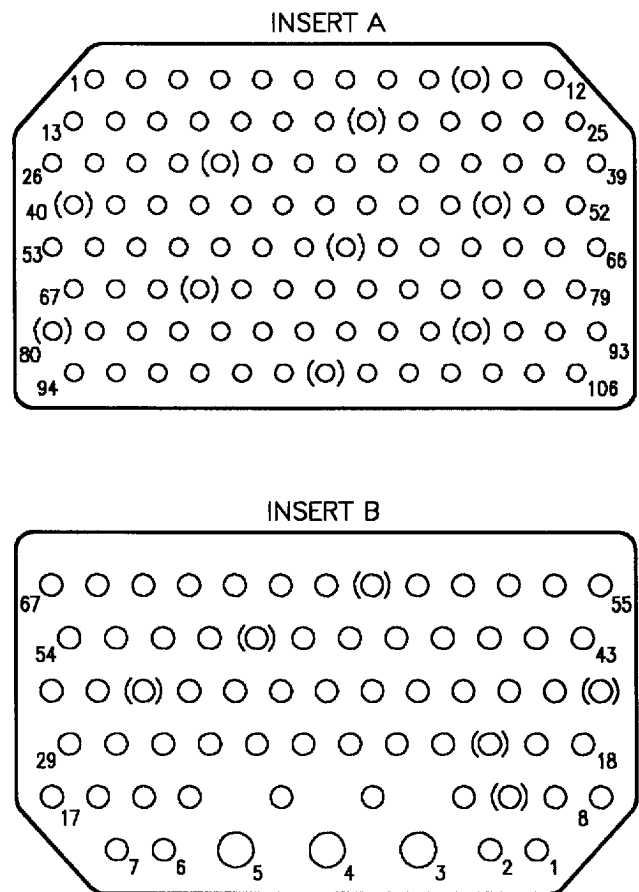
Table 11. Contact Data For Wired Contacts Insert B 207596-9

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 32	5/32	M39029/12-149	MS27488-20

Table 12. Contact Data For Coax Contacts Insert B 207596-9

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
A1 THRU A2	See figure 40	225791-8	205402-3




Figure 33. 1-207596-0 and 207596-9 Connectors (Sheet 4)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(899-67)01-CATI

Reference Designation to Backshell Data Index for 207595-1 Connectors

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-F005A	J1311F	060 00
 52J-F005B	J1311F	060 00
 F/A-18A		

Reference Designation to Backshell Data Index for 207595-7 Connectors




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-R005A	J1311F	060 00
 52J-R005B	J1311F	060 00
 F/A-18B		

Figure 34. 207595-1 and 207595-7 Connectors (Sheet 1)

Table 1. Tool Data For Wired Contacts Insert A 207595-1

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 207595-1

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2
Crimp Tool Handle	M22520/1-01
Turret Head	M22520/1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Table 3. Contact Data For Wired Contacts Insert A 207595-1

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 4. Contact Data For Wired Contacts Insert B 207595-1

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 & 2 also 6 THRU 67	5/32	M39029/12-149	MS27488-20
3 THRU 5	5/32	M39029/12-150	MS27488-16

Figure 34. 207595-1 and 207595-7 Connectors (Sheet 2)

Table 5. Tool Data For Wired Contacts Insert A 207595-7

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 6. Tool Data For Wired Contacts Insert B 207595-7

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool	M81969/1-02
(Red) Removal Tool	M81969/1-02
(White) Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe	DRK-105-20-2
(Red) Crimp Tool Handle	M22520/1-01
Turret Head	M22520/1-02
Insertion Tool	M81969/1-03
(Blue) Removal Tool	M81969/1-03
(White) Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

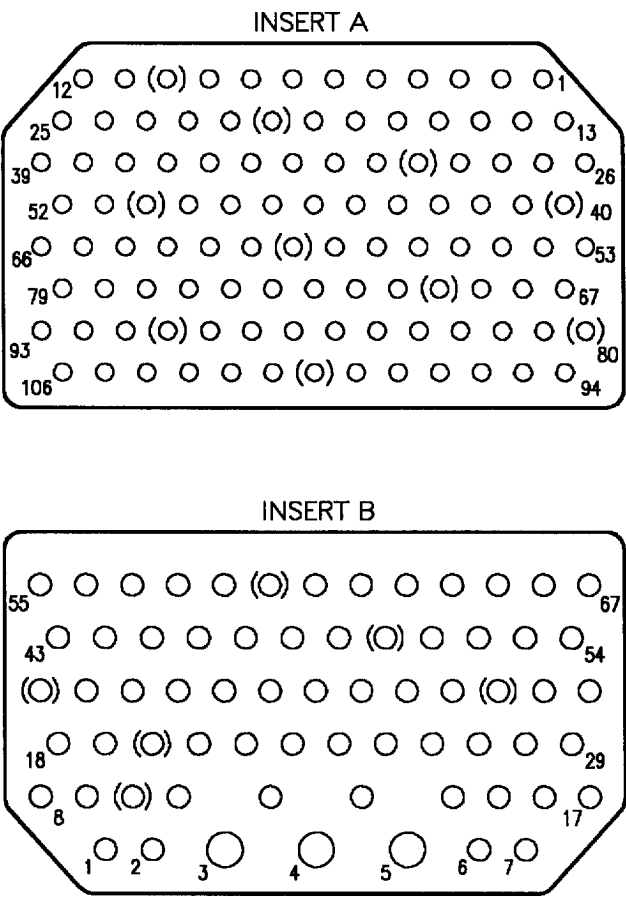
Table 7. Contact Data For Wired contacts Insert A 207595-7

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Table 8. Contact Data For Wired Contacts Insert B 207595-7

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 & 2 also 6 THRU 67	5/32	M39029/11-145	MS27488-20
3 THRU 5	5/32	M39029/11-146	MS27488-16

Figure 34. 207595-1 and 207595-7 Connectors (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(999-67)01-CAT1

Reference Designation to Backshell Data Index for 207596-1 Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-F005A	J1311F	060 00
 52P-F005B	J1311F	060 00
 F/A-18A		

Figure 35. 207596-1 and 207596-7 Connectors (Sheet 1)

Reference Designation to Backshell Data Index for 207596-7 Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-F005A	J1311F	060 00
 52P-F005B	J1311F	060 00
 F/A-18B		

Table 1. Tool Data For Wired Contacts Insert A 207596-1

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 207596-1

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2
Crimp Tool Handle	M22520/1-01
Positioner	M22520-1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Table 3. Contact Data For Wired Contacts Insert A 207596-1

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Figure 35. 207596-1 and 207596-7 Connectors (Sheet 2)

Table 4. Contact Data For Wired Contacts Insert B 207596-1

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 & 2 also 6 THRU 67	5/32	M39029/12-149	MS27488-20
3 THRU 5	5/32	M39029/12-150	MS27488-16

Table 5. Tool Data For Wired Contacts Insert A 207596-7

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Turret Head	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 6. Tool Data For Wired Contacts Insert B 207596-7

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Red)	M81969/1-02
Removal Tool (White)	M81969/1-02
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Red)	DRK-105-20-2
Crimp Tool Handle	M22520/1-01
Turret Head	M22520/1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

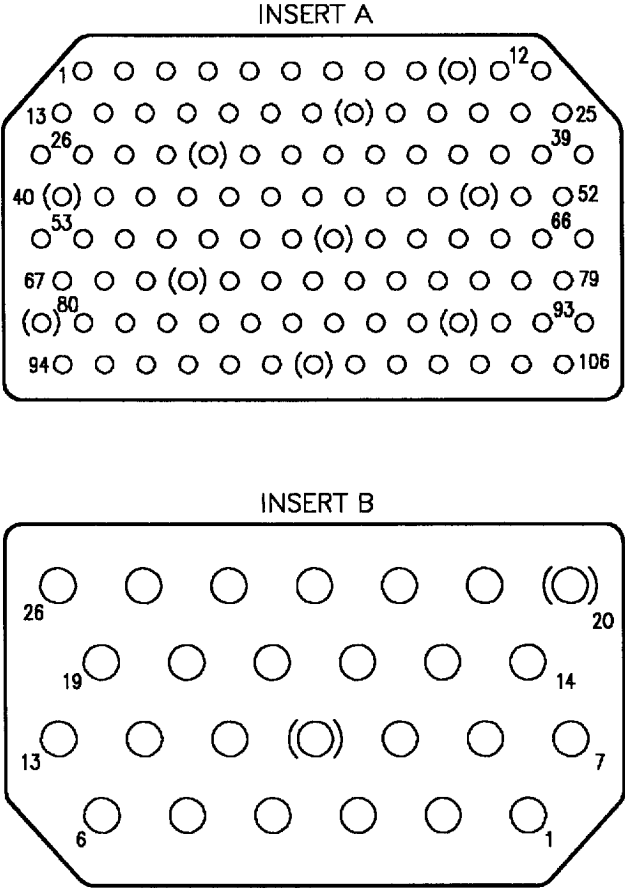
Table 7. Contact Data For Wired Contacts Insert A 207596-7

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 8. Contact Data For Wired Contacts Insert B 207596-7

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 & 2 also 6 THRU 67	5/32	M39029/12-149	MS27488-22
3 THRU 5	5/32	M39029/12-150	MS27488-16

Figure 35. 207596-1 and 207596-7 Connectors (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(899-26)01-CAT1

Reference Designation to Backshell Data Index for 207595-2 Connector






REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
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 52J-E010B	J1311F	060 00
 52J-F002A	J1311F	060 00
 52J-F002B	J1311F 00	060 00
 F/A-18A		

Figure 36. 207595-2 and 207595-6 Connector (Sheet 1)

Reference Designation to Backshell Data Index for 207595-6 Connectors






REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
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 52J-P010B	J1311F	060 00
 52J-R002A	J1311F	060 00
 52J-R002B	J1311F	060 00
 F/A-18B		

Table 1. Tool Data For Wired Contacts Insert A 207595-2

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 207595-2

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Turret Head	M22520/1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

Table 3. Contact Data For Wired Contacts Insert A 207595-2

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Figure 36. 207595-2 and 207595-6 Connector (Sheet 2)

Table 4. Contact Data For Wired Contacts Insert B 207595-2

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 26	5/32	M39029/12-150	MS27488-16

Table 5. Tool Data For Wired Contacts Insert A 207595-6

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 6. Tool Data For Wired Contacts Insert B 207595-6

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

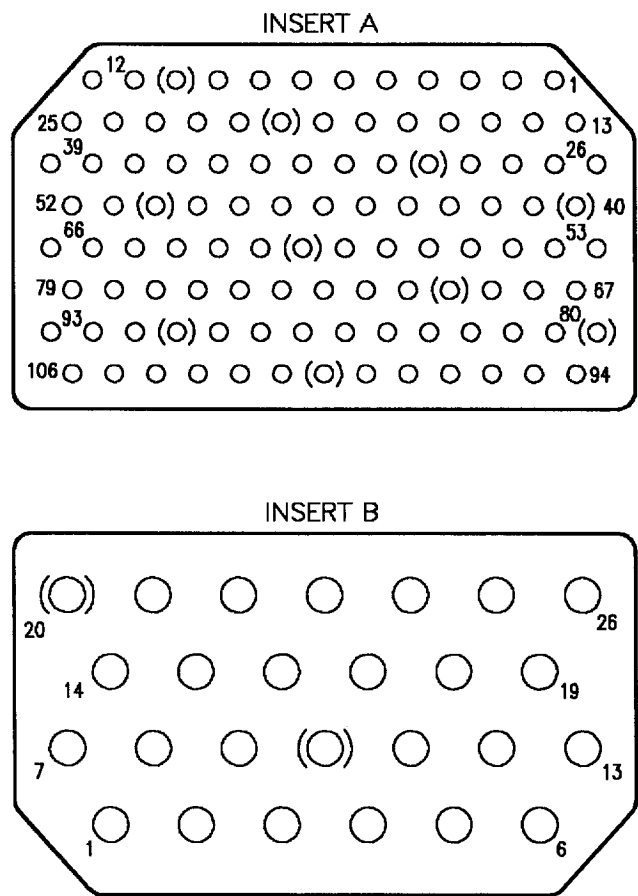
Table 7. Contact Data For Wired Contacts Insert A 207595-6

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Table 8. Contact Data For Wired Contacts Insert B 207595-6

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 26	5/32	M39029/11-146	MS27488-16

Figure 36. 207595-2 and 207595-6 Connector (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(999-26)01-CAT1

Reference Designation to Backshell Data Index for 207596-2 Connector






REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-E010A	J1311F	060 00
 52P-E010B	J1311F	060 00
 52P-F002A	J1311F	060 00
 52P-F002B	J1311F	060 00
 F/A-18A		

Figure 37. 207596-2 and 207596-6 Connector (Sheet 1)

Reference Designation to Backshell Data Index for 207596-6 Connector






REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-E010A	J1311F	060 00
 52P-E010B	J1311F	060 00
 52P-F002A	J1311F	060 00
 52P-F002B	J1311F	060 00
 F/A-18B		

Table 1. Tool Data For Wired Contacts Insert A 207596-2

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 207596-2

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue;)	DRK110-16-2

Table 3. Contact Data For Wired Contacts Insert A 207596-2

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Figure 37. 207596-2 and 207596-6 Connector (Sheet 2)

Table 4. Contact Data For Wired Contacts Insert B 207596-2

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 26	5/32	M39029/11-146	MS27488-16

Table 5. Tool Data For Wired Contacts Insert A 207596-6

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 6. Tool Data For Wired Contacts Insert B 207596-6

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/1-01
Positioner	M22520/1-02
Insertion Tool (Blue)	M81969/1-03
Removal Tool (White)	M81969/1-03
Removal Tool (Unwired)	DRK110-1SA
Removal Tool Probe (Blue)	DRK110-16-2

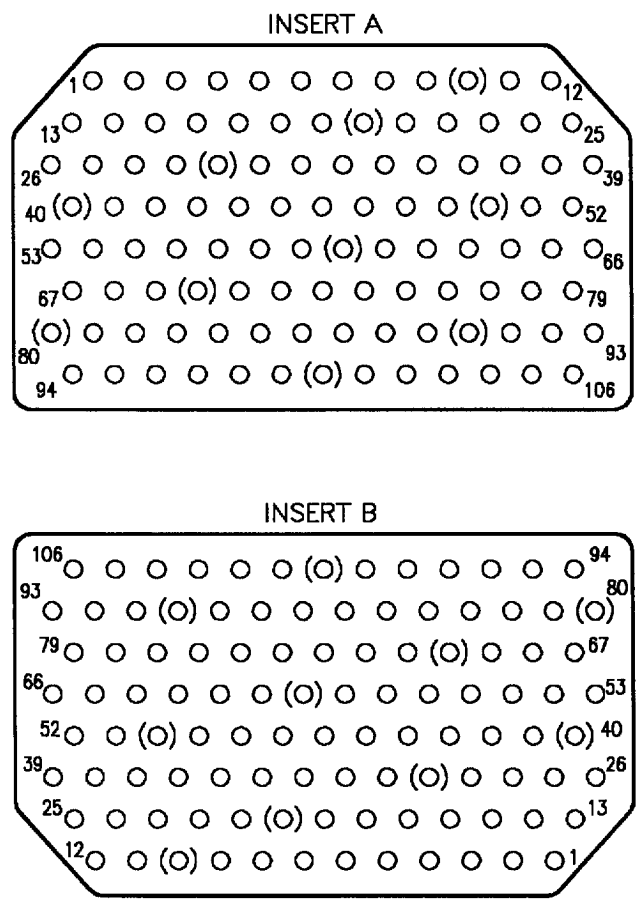
Table 7. Contact Data For Wired Contacts Insert A 207596-6

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 8. Contact Data For Wired Contacts Insert B 207596-6




CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 26	5/32	M39029/12-150	MS27488-16

Figure 37. 207596-2 and 207596-6 Connector (Sheet 3)



F/A-18-WRM-(899-106A)01-CAT1

Reference Designation to Backshell Data Index for 207595-3 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-F004A	J1311F	060 00
 52J-F004B	J1311F	060 00
 F/A-18A		

Reference Designation to Backshell Data Index for 207595-5 Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52J-R004A	J1311F	060 00
 52J-R004B	J1311F	060 00
 F/A-18B		

Figure 38. 207595-3 and 207595-5 Connectors (Sheet 1)

Table 1. Tool Data For Wired Contacts Insert A 207595-3

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 207595-3

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 3. Contact Data For Wired Contacts Insert A 207595-3

CONTACT	STRIP DIMESNION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 4. Contact Data For Wired Contacts Insert B 207595-3

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Figure 38. 207595-3 and 207595-5 Connectors (Sheet 2)

Table 5. Tool Data For Wired Contact Insert A 207595-5

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 6. Tool Data For Wired Contacts Insert B 207595-5

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

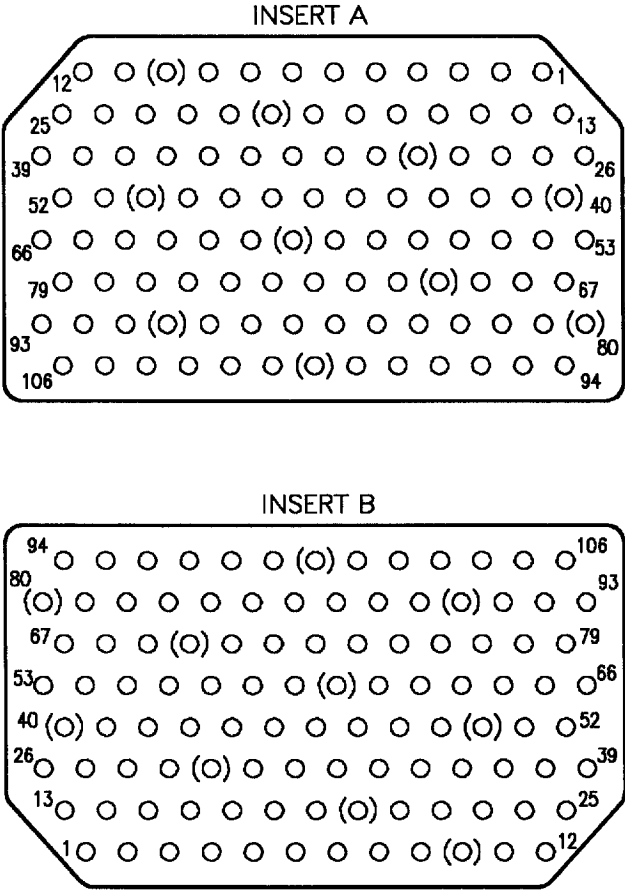
Table 7. Contact Data For Wired Contacts Insert A 207595-5

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Table 8. Contact Data For Wired Contacts Insert B 207595-5

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALLING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Figure 38. 207595-3 and 207595-5 Connectors (Sheet 3)



AS VIEWED FROM REAR OF CONNECTOR

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Reference Designation to Backshell Data Index for 207596-3 Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-F004A	J1311F	060 00
 52P-F004B	J1311F	060 00
 F/A-18A		

Figure 39. 207596-3 and 207596-5 Connectors (Sheet 1)

Reference Designation to Backshell Data Index for 207596-5 Connector




REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
 52P-F004A	J1311F	060 00
 52P-F004B	J1311F	060 00
 F/A-18B		

Table 1. Tool Data For Wired Contacts Insert A 207596-3

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 2. Tool Data For Wired Contacts Insert B 207596-3

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 3. Contact Data For Wired Contacts Insert A 207596-3

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Table 4. Contact Data For Wired Contacts Insert B 207596-3

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/12-148	MS27488-22

Figure 39. 207596-3 and 207596-5 Connectors (Sheet 2)

Table 5. Tool Data For Wired Contacts Insert A 207596-5

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 6. Tool Data For Wired Contacts Insert B 207596-5

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-23
Insertion Tool (Green)	M81969/1-01
Removal Tool (White)	M81969/1-01
Removal Tool (Unwired)	DRK-105-1SA
Removal Tool Probe (Green)	DRK-105-22-2

Table 7. Contact Data For Wired Contacts Insert A 206596-5

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Table 8. Contact Data For Wired Contacts Insert B 206596-5

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 106	5/32	M39029/11-144	MS27488-22

Figure 39. 207596-3 and 207596-5 Connectors (Sheet 3)

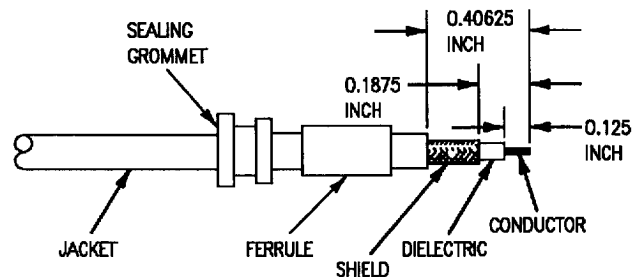


To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

When stripping cable, only amount of material necessary shall be removed. Do not cut too deep; braided shield or insulation may be damaged. Strip dimensions shall be as accurate as possible. Incorrect strip dimensions are the greatest cause of contact failure.

a. Slide sealing grommet and ferrule over wire.

b. Using cable stripper 45-163 strip outer jacket and braided shield from coaxial cable as shown. Using sharp knife, remove dielectric as shown.

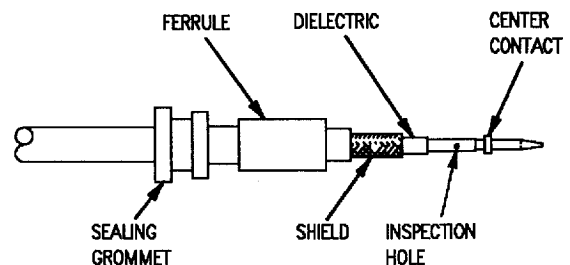


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NOTE

Center conductor must be visible through inspection hole.

c. Slide center contact over conductor. Crimp inner pin contact using tooling specified in table 3 and 9, in figure 32 and 33.

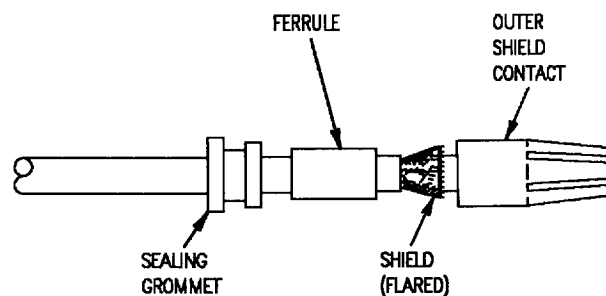


F/A-18-WRM-(675-2)02-SCAN

Figure 40. Coaxial Connector Assembly Procedure (Sheet 1)

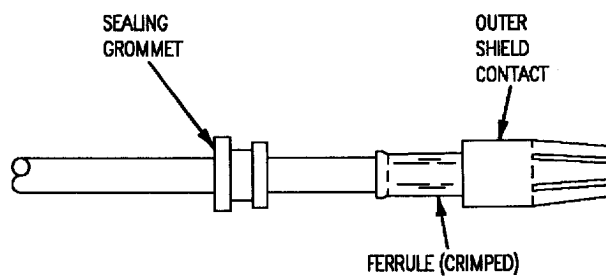
d. Flare braided shield.

e. Slide outer contact assembly over crimped center contact and under braided shield until it bottoms.



F/A-18-WRM-(675-3)02-SCAN

f. Slide ferrule onto braided shield and butt against shoulder of outer contact assembly. Crimp ferrule using tooling specified in table 3 and 9 in figures 32 and 33.



F/A-18-WRM-(675-4)02-SCAN

Figure 40. Coaxial Connector Assembly Procedure (Sheet 2)

ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE**WIRING REPAIR WITH PARTS DATA****M24308-2-27 (MIL-C-24308)****CONNECTOR REPAIR**

Reference Material

Avionics Cleaning and Corrosion Prevention Control	NAVAIR 16-1-540
Electrical System	A1-F18AC-420-300
Utility Battery and Charger Unit or Utility Battery	WP019 00
Emergency Battery and Charger Unit or Emergency Battery	WP020 00
Wiring Repair With Parts Data, General Wiring Repair Procedures	A1-F18AC-WRM-000
Stripping Tools	WP010 00
Wire Type List	WP004 00

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Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool, Figure 15	13
Unwired Contact Removal From Connector	12
Wire Preparation	3
Wired Contact Removal From Connector	10

Record of Applicable Technical Directives

None


Reference Designation to
Figure Number Index



Reference
Designation


Figure No.

Unwired connector cavities shall have a sealing
plug installed to prevent water intrusion.

 76J-L028

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LEGEND

 F/A-18B

1. DESCRIPTION.

2. This connector is a rectangular panel mount type
receptacle manufactured to MIL-C-24308. The connec-
tors have crimp-type, rear-release, rear removal contacts.

3. Each connector part number is supported by an il-
lustration which represents the contact arrangement, a
reference designation list and tables containing tooling
and parts data.

Support Equipment Required

Number or Type Designation	Nomenclature
3308AS100	Repair Set-Wire and Connector

Materials Required

Specification or Part Number	Nomenclature
TT-I-735 GRADE B	Isopropyl Alcohol

4. CORROSION CONTROL.

a. For cleaning and anticorrosion methods, refer to NAVAIR 16-1-540.

5. REPAIR PROCEDURE.

a. If backshell requires disassembly, do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

6. WIRE PREPARATION.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. Cut wire to required length.

b. Determine correct strip dimension in table 2 contact data in the correct connector data figure number. The connector figure number is listed in the Reference Designation to Figure Number Index within this work package.

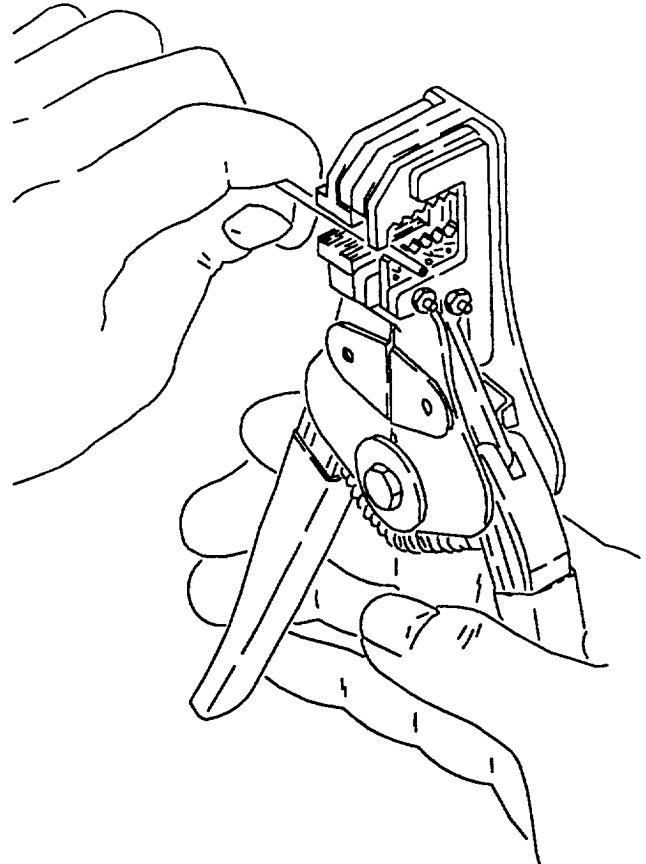
NOTE

Determine the wire types of the wire, using the applicable Cable/Wiring Assembly Data Work Package in volumes A1-F18AC-WRM-010 through A1 -F18AC-WRM-070.

For a detailed explanation of wire strippers see WP010 00.

c. Select the correct wire strippers for the wire by referring to the Wire Type List WP004 00 for the particular wire type used.

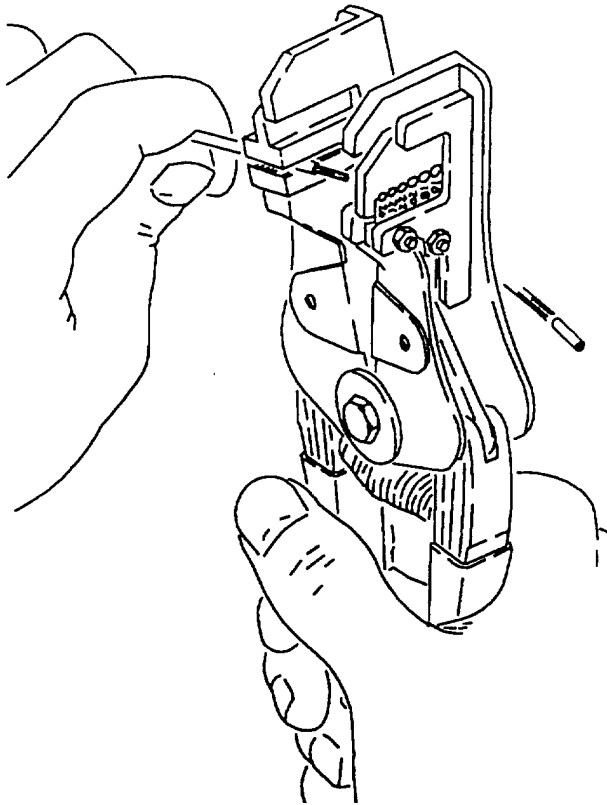
d. Insert wire into exact center of correct cutting slot for wire size to be stripped (each slot is marked with wire size). See figure 1.



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Figure 1. Placing Wire in Slot of Stripping Tool

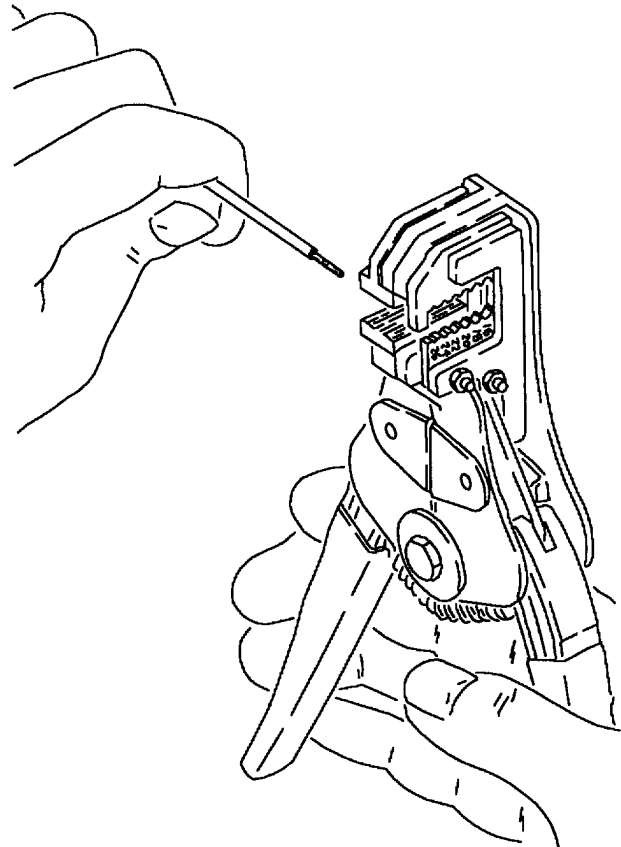
e. Close handles together as far as they will go. See figure 2.



F/A-18-WRM-(402-1)01-SCAN

Figure 2. Removing Insulation

f. Remove wire while releasing handles, allowing wire holder to return to open position. See figure 3.

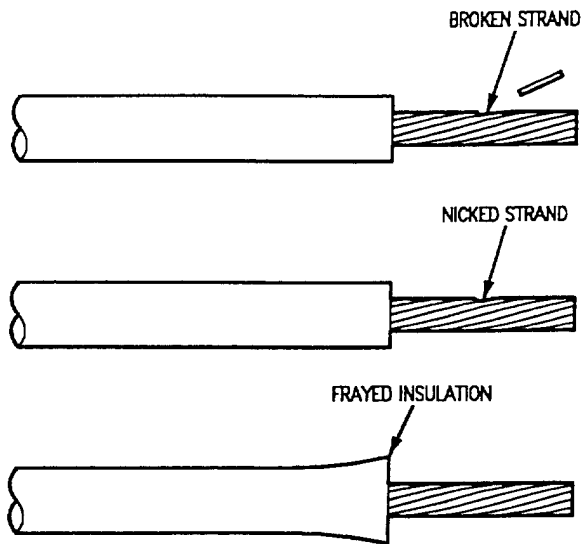


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Figure 3. Stripping Completed

g. After stripping, twist strands of wire firmly together in the same direction as the normal lay of the wire.

h. Conditions shown in figure 4 are unacceptable.



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Figure 4. Unacceptable Conditions

7. CRIMP TOOL HANDLE M22520/2-01 ASSEMBLY AND ADJUSTMENTS.

NOTE

Make sure crimp tool is operating correctly by using M22520/3-1 inspection gage.

a. Select crimp tool handle and positioner specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

8. REMOVAL AND INSTALLATION OF POSITIONER.

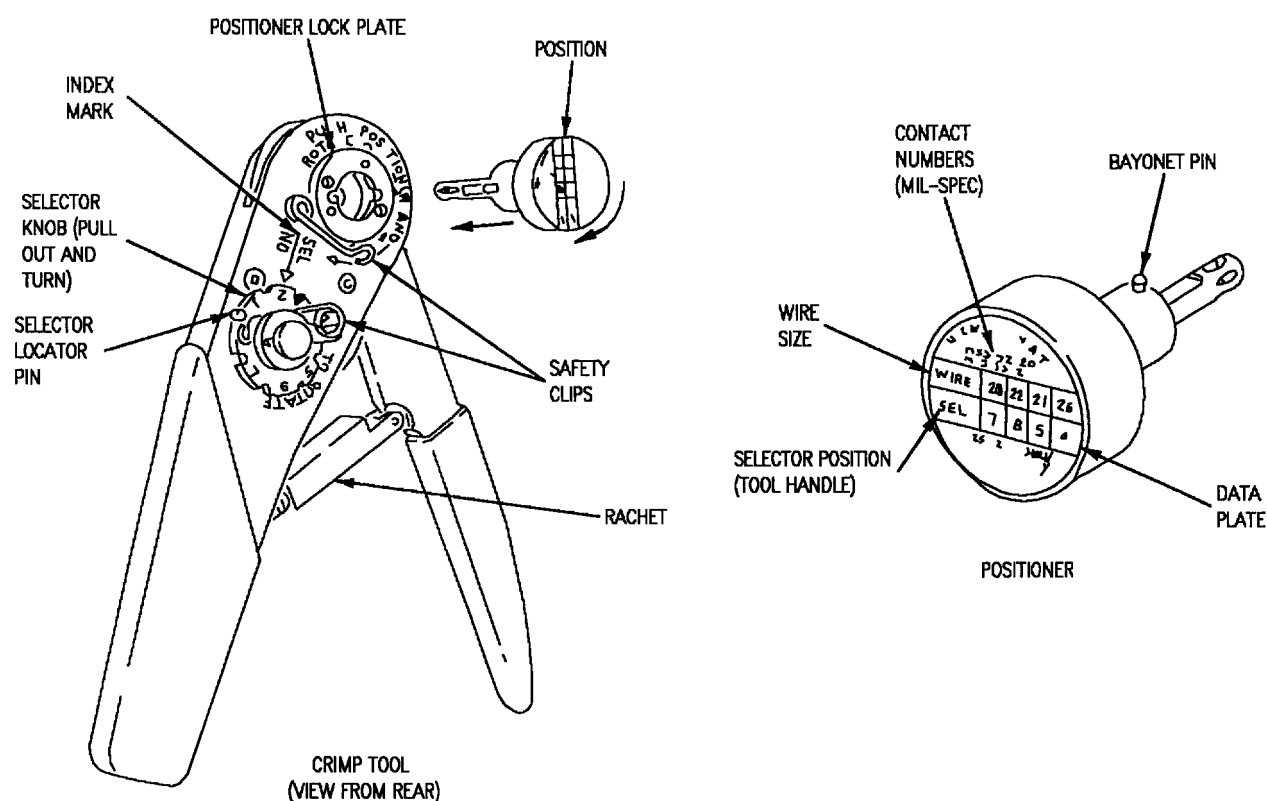
NOTE

Tool handle shall be fully open when inserting turret of positioner head and when changing selector positions.

a. Align bayonet pins on positioner with keyway on positioner lock plate. See figure 5.

b. Push positioner into lock plate until it bottoms, maintain pressure and turn clockwise until it stops. Insert safety clip.

c. To remove, pull safety clip out. Turn positioner counter clockwise until it stops and lift straight up out of lock plate.



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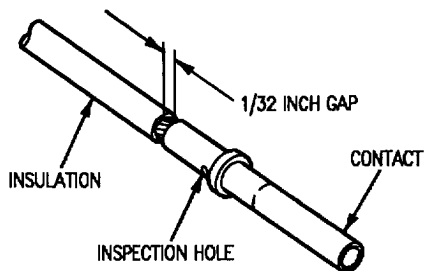
Figure 5. M22520/2-01 Crimp Tool Handle and Positioner

9. SETTING SELECTOR KNOB.

- a. Locate wire size on data plate of positioner and note corresponding selector number.
- b. Remove safety clip. Lift selector knob and rotate until selector number found on data plate aligns with index.
- c. Install safety clip.

10. CONTACT CRIMPING.

- a. Select correct contact specified in table 2 for affected connector part number.
- b. Insert stripped wire into contact and make sure wire strands are visible in contact inspection hole.
- c. Visually inspect gap dimension between contact and insulation as shown in figure 6.



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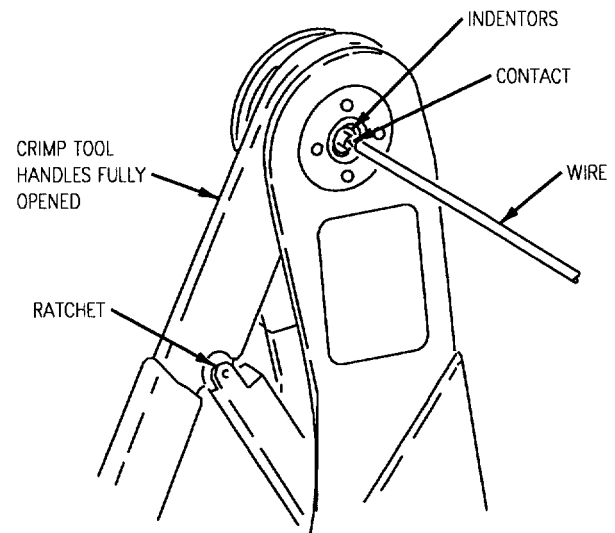
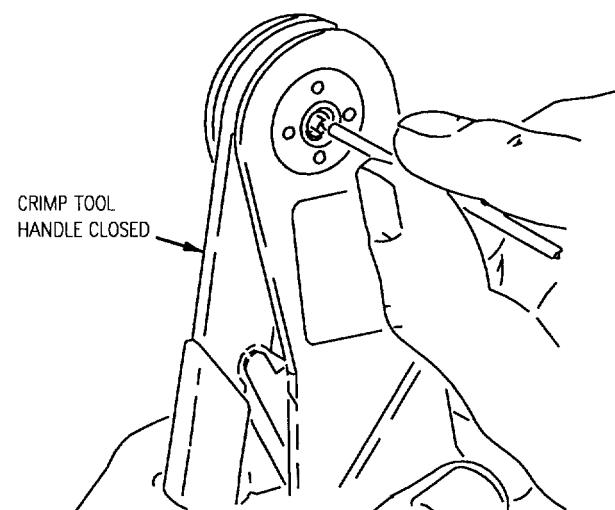
Figure 6. Strip Gap Check

- d. Insert contact and wire into crimp tool indentors on front of tool until contact bottoms in positioner/turret. See figure 7, detail A.

NOTE

Crimp tool will not release until crimping cycle is completed.

- e. Hold wire in place and squeeze tool handles together smoothly until ratchet releases and tool opens. See figure 7, detail B.

CRIMP TOOL
(VIEWED FROM FRONT)**DETAIL A****DETAIL B**

F/A-18-WRM-(407-1)01-CATI

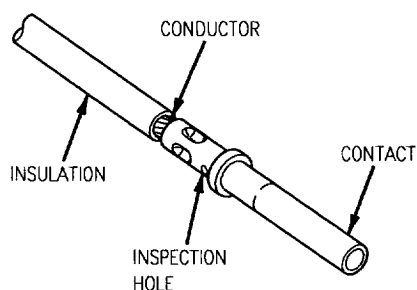
Figure 7. Contact Crimping

f. Remove crimped contact from tool and inspect wire strands in contact inspection hole figure 8.

(1) Two series of four indents shall grip wire and secure contact to wire.

(2) Wire shall be visible in contact inspection hole, indicating that wire is crimped into contact at correct depth.

(3) There shall be no loose or nicked strands.



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Figure 8. Inspection of Crimped Contact

11. INSERTION OF CONTACT INTO CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select insertion tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

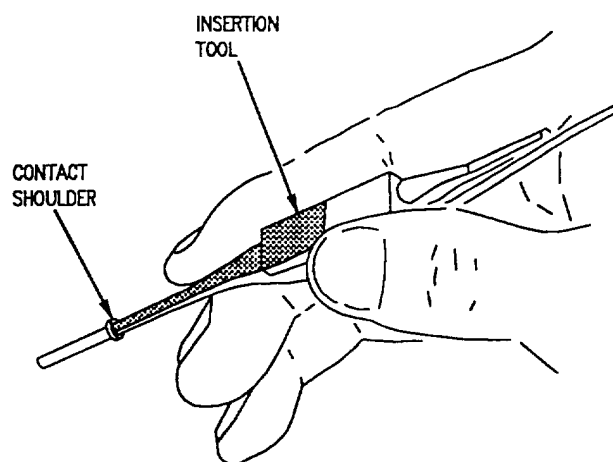
Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

c. Isopropyl alcohol may be used as a lubricant for insertion of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire and contact assembly into insertion tool and position tool tip over crimp barrel to butt contact shoulder. See figure 9.



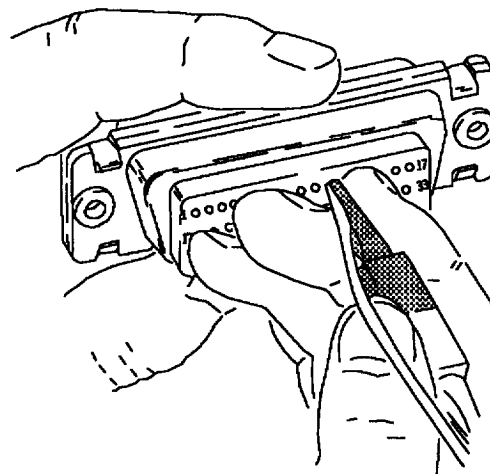
Damage may occur to contact insertion tool if tilted or rotated when in connector insert.



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Figure 9. Inserting Contact into Insertion Tool

e. At right angle to connector insert, align contact with cavity in connector and press contact firmly with insertion tool to seat contact in cavity. Slight click may be heard as retention tines snap into place behind contact shoulder. See figure 10.

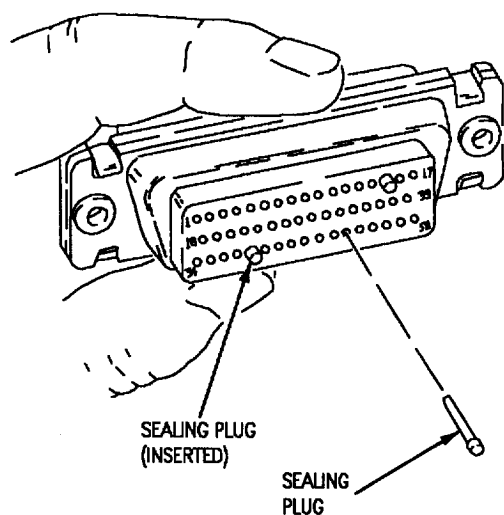


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Figure 10. Inserting Contacts into Connector

f. Remove insertion tool by pulling it straight out of contact cavity and disengage from wire. Carefully pull back on wire to make sure contact is correctly seated.

g. Fill all unused contact cavities with uncrimped contacts, then insert sealing plug, small diameter first, until it bottoms against contact cavity. See figure 11.



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Figure 11. Inserting Sealing Plug(s) Into Connector

12. WIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select removal tool specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

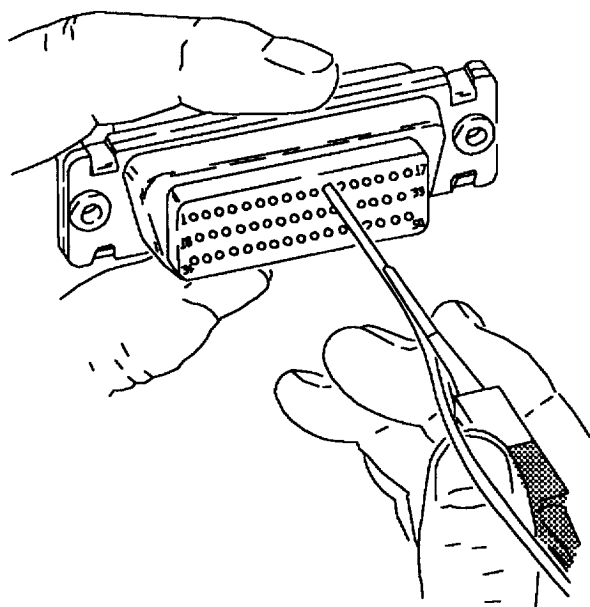


Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

c. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

d. Place wire of contact to be removed into removal tool, with tool tip facing connector insert.

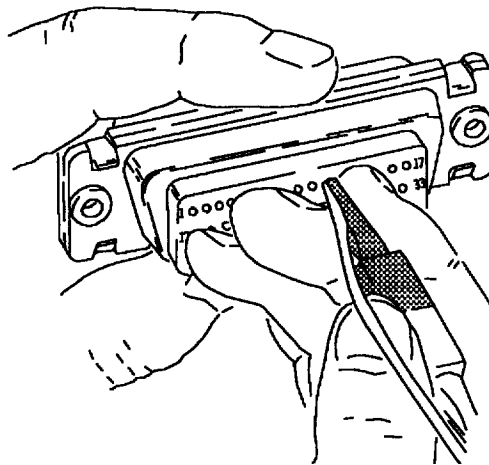
e. Slide removal tool along wire at right angle to connector insert and align with contact cavity. See figure 12.



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Figure 12. Removal Tool on Wire

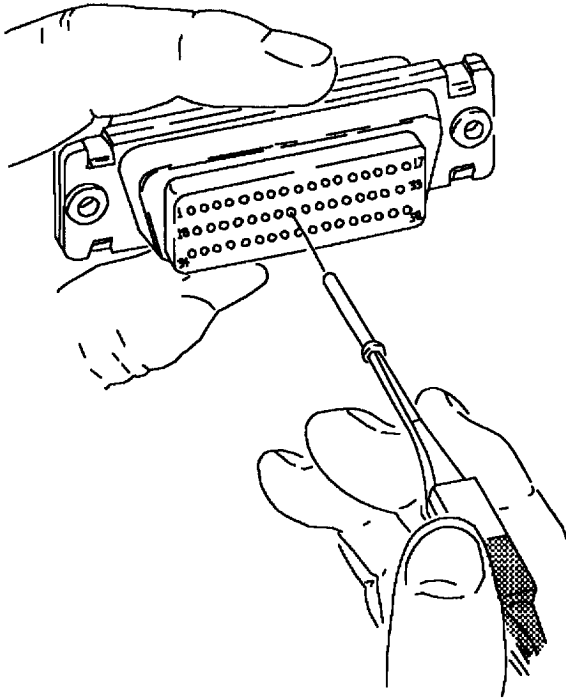
f. Insert tool into contact cavity until tool tip bottoms against contact shoulder. See figure 13.



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Figure 13. Unlocking Contact Mechanism

g. Hold wire and tool and pull straight out from contact cavity. See figure 14.



F/A-18-WRM-(385-4)02-SCAN

Figure 14. Removing Contact From Connector

13. UNWIRED CONTACT REMOVAL FROM CONNECTOR.



To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Select unwired removal tool(s) specified in table 1 Tool Data in the correct connector data figure number. The connector data figure number is found by locating the reference designation in the Reference Designation to Figure Number Index within this work package.



Damage may occur if contact removal tool is tilted or misaligned when in connector insert.

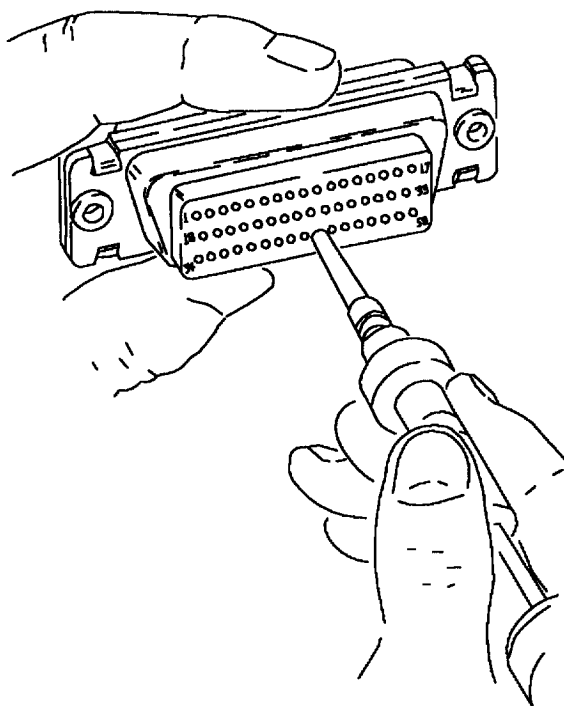
c. Align unwired removal tool, at the rear and at a right angle to connector, with contact to be removed.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

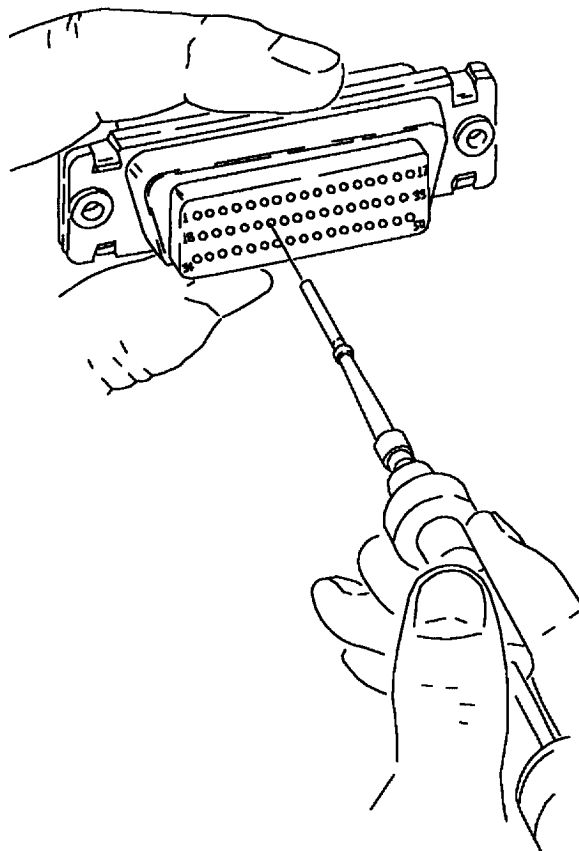
e. Insert unwired removal tool tip into contact cavity until it bottoms in contact cavity and releases contact retention mechanism. See figure 15.



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Figure 15. Unlocking Contact Retention Mechanism with Unwired Contact Removal Tool

f. Grip tool and withdraw unwired removal tool and contact from rear of the connector. See figure 16.



F/A-18-WRM-(385-6)02-SCAN

Figure 16. Extracting Contact from Connector

g. Remove contact by holding unwired removal tool and press plunger forward.

14. BROKEN WIRE CONTACT REMOVAL FROM CONNECTOR.

CAUTION

To prevent damage to aircraft wiring or equipment, disconnect both the utility battery and the emergency battery. Refer to A1-F18AC-420-300, WP019 00 and WP020 00. When electrical power is off, 24vdc battery voltage exists in some wiring.

a. If backshell requires disassembly, do the sub-steps below.

(1) Determine correct connector data figure number from the Reference Designation to Figure Number Index within this work package.

(2) To remove boot and backshell from connector, refer to backshell work package listed in Reference Work Package column of Reference Designation to Backshell Data Index.

b. Remove hardware from rear of connector and slide back over wire bundle.

c. Select removal tool specified in table 1 for affected connector part number.

WARNING

Isopropyl alcohol is highly flammable and toxic. Do not use near open flame or sparks. Use only in well ventilated areas.

d. Isopropyl alcohol may be used as a lubricant for removal of contacts. Apply by brushing on connector insert grommet face or by dipping tool.

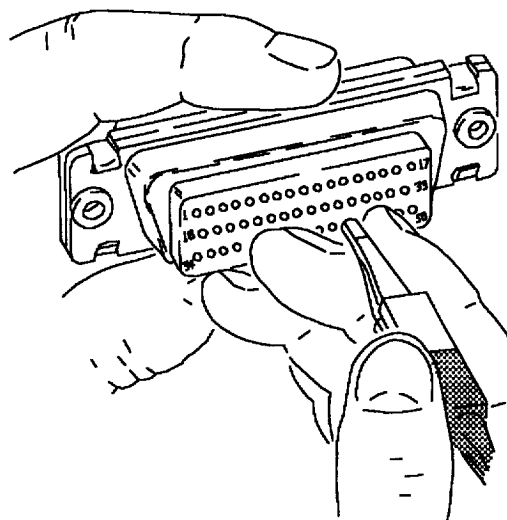
e. Insert tip of removal tool 1/8-inch into cavity at rear of connector.

CAUTION

Wire strands may be encountered at any point during tool insertion. Do not jam wire strands in contact cavity. Withdraw removal tool any-time during insertion when it cannot be advanced into connector using these procedures. Inspect tool tip for nicks, cracks, mushrooming and other damage that will prevent its functioning. Replace removal tool and repeat procedure if required.

f. Carefully insert removal tool into contact cavity in 1/16-inch increments, releasing tool after each increment if resistance is felt.

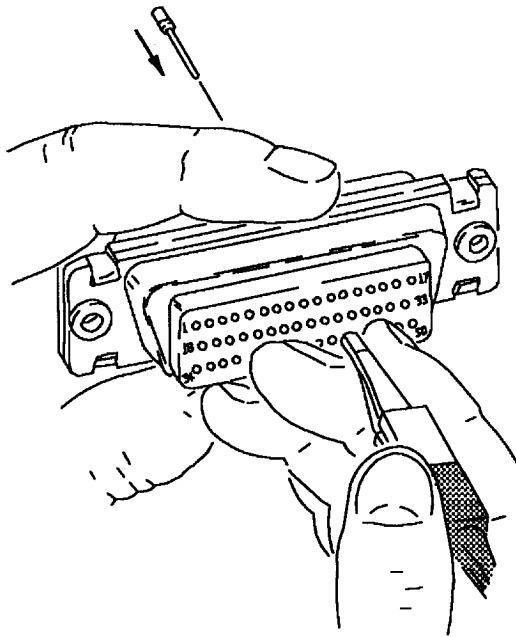
g. If resistance is felt before removal tool reaches back end of contact withdraw tool slightly, rotate 1/6 of a turn, and reinsert tool. Repeat rotation and insertion procedure until tool passes with minimal additional force and bottoms in contact cavity. See figure 17.



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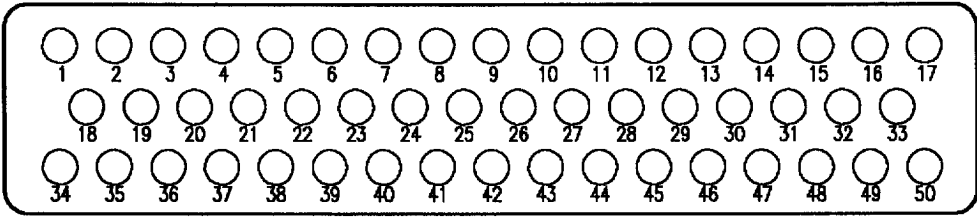
Figure 17. Unlocking Contact Retention Mechanism of Broken Wire Contact

- h. Wiggle removal tool carefully to help it into contact cavity and over contact. Additional rotation may be required if broken strands are encountered.
- i. Continue insert of removal tool until positive stop is felt.
- j. Exert pressure at right angle to connector insert engaging end of contact. Using a mating contact as pusher (if contact does not move, seat removal tool more firmly). See figure 18.



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Figure 18. Broken Wire Contact Removal



AS VIEWED FROM REAR OF CONNECTOR

F/A-18-WRM-(899-50)01-CATI

Reference Designation to Backshell Data Index for M24308-2-27 Connector

REFERENCE DESIGNATION	BACKSHELL	REFERENCE WORK PACKAGE
76J-L028	None	None

Table 1. Tool Data

ITEM	TOOL NUMBER
Crimp Tool Handle	M22520/2-01
Positioner	M22520/2-08
Insertion Tool (Green)	M81969/39-01
Removal Tool (White)	M81969/39-01
Removal Tool (Unwired)	DRK105-1SA
Removal Tool Probe (Red)	DRK105-20-2

Table 2. Contact Data

CONTACT	STRIP DIMENSION (+1/32 INCH)	CONTACT PART NO.	SEALING PLUG PART NO.
1 THRU 50	7/32	M39029/63-368	MS27488-20

Figure 19. M24308-2-27 Connector